

Nevada
Environmental
Restoration
Project

DOE/NV--1160



Closure Report for Corrective Action Unit 214: Bunkers and Storage Areas, Nevada Test Site, Nevada

Controlled Copy No.: _____

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September 2006

Environmental Restoration
Project



U.S. Department of Energy
National Nuclear Security Administration
Nevada Site Office

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**CLOSURE REPORT
FOR CORRECTIVE ACTION UNIT 214:
BUNKERS AND STORAGE AREAS
NEVADA TEST SITE, NEVADA**

**U.S. Department of Energy
National Nuclear Security Administration
Nevada Site Office
Las Vegas, Nevada**

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**CLOSURE REPORT
FOR CORRECTIVE ACTION UNIT 214:
BUNKERS AND STORAGE AREAS
NEVADA TEST SITE, NEVADA**

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ACRONYMS AND ABBREVIATIONS

AL	Action Level
BMP	Best Management Practice
CADD	Corrective Action Decision Document
CAIP	Corrective Action Investigation Plan
CAP	Corrective Action Plan
CAS	Corrective Action Site
CAU	Corrective Action Unit
COC	contaminant(s) of concern
CR	Closure Report
DOE	U.S. Department of Energy
DOE/NV	U.S. Department of Energy, Nevada Operations Office
DQO	Data Quality Objective
DRO	Diesel Range Organics
EPA	U.S. Environmental Protection Agency
FFACO	Federal Facility Agreement and Consent Order
m ³	cubic meter(s)
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
mg/kg	milligram(s) per kilogram
NA	not analyzed
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NEPA	<i>National Environmental Policy Act</i>
NNSA/NSO	U.S. Department of Energy, National Nuclear Security Administration / Nevada Site Office
NNSA/NV	U.S. Department of Energy, National Nuclear Security Administration / Nevada Operations Office
NSTec	National Security Technologies, LLC

ACRONYMS AND ABBREVIATIONS (continued)

NTS	Nevada Test Site
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
RCRA	<i>Resource Conservation and Recovery Act</i>
TPH	Total Petroleum Hydrocarbons
UR	use restriction(s)/use-restricted
yd ³	cubic yard(s)
YMP-SMF	Yucca Mountain Project Sample Management Facility

EXECUTIVE SUMMARY

Corrective Action Unit (CAU) 214 is located in Areas 5, 11, and 25 of the Nevada Test Site (NTS). CAU 214 is listed in the *Federal Facility Agreement and Consent Order* (FFACO, 1996) as “Corrective Action Unit 214: Bunkers and Storage Areas,” and is comprised of nine Corrective Action Sites (CASs):

- CAS 05-99-01, Fallout Shelters
- CAS 11-22-03, Drum
- CAS 25-23-01, Contaminated Materials
- CAS 25-23-19, Radioactive Material Storage
- CAS 25-34-03, Motor Dr/Gr Assembly (Bunker)
- CAS 25-34-04, Motor Dr/Gr Assembly (Bunker)
- CAS 25-34-05, Motor Dr/Gr Assembly (Bunker)
- CAS 25-99-12, Fly Ash Storage
- CAS 25-99-18, Storage Area

The Nevada Division of Environmental Protection (NDEP)-approved corrective action alternative for CASs 11-22-03, 25-34-03, 25-34-04, 25-34-05, 25-99-12, and 25-99-18 is No Further Action. Closure activities included:

- Removing and disposing of the fly ash and surrounding wooden structure at CAS 25-99-12 as a best management practice

The NDEP-approved corrective action alternative for CAS 05-99-01 in CAU 214 is Clean Closure. Closure activities included:

- Removing and disposing of soil contaminated with the pesticide dieldrin

The NDEP-approved corrective action alternative for CASs 25-23-01 and 25-23-19 is Closure in Place with Administrative Controls. Closure activities included:

- Removing and disposing of soil contaminated with chromium and soil impacted with the pesticides chlordane and heptachlor
- Implementing use restrictions (UR) at both CASs as detailed in the CAU 214 Corrective Action Plan (CAP) (U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office [NNSA/NSO], 2005)
- Posting UR warning signs around CASs 25-23-01 and 25-23-19 on the existing chain link fence

CAU 214 was closed in accordance with the NDEP-approved CAU 214 CAP. The closure activities specified in the CAP were based on the recommendations presented in the CAU 214

Corrective Action Decision Document (NNSA/NSO, 2004). This Closure Report documents the closure activities.

The proposed post-closure monitoring plan consists of annual site inspections at CASs 25-23-01 and 25-23-19 for the first five years, followed by inspections once every five years for a total of 30 years. The inspections will determine the condition of posted signs and fencing, if applicable, and whether URs have been maintained. Any repairs will be documented in writing at the time of repair. Results of all inspections and repairs for a given year will be included in the combined NTS post-closure letter report submitted annually to NDEP.

1.0 INTRODUCTION

Corrective Action Unit (CAU) 214 is listed in Appendix III of the *Federal Facility Agreement and Consent Order* (FFACO, 1996), an agreement between the U.S. Department of Energy (DOE), the U.S. Department of Defense, and the state of Nevada, as “CAU 214: Bunkers and Storage Areas.” CAU 214 consists of nine Corrective Action Sites (CASs) located in Areas 5, 11, and 25 of the Nevada Test Site (NTS), which is located approximately 65 miles northwest of Las Vegas, Nevada. Figure 1 depicts the approximate CAS locations within the NTS. Specifically, CAU 214 includes:

- CAS 05-99-01, Fallout Shelters
- CAS 11-22-03, Drum
- CAS 25-23-01, Contaminated Materials
- CAS 25-23-19, Radioactive Material Storage
- CAS 25-34-03, Motor Dr/Gr Assembly (Bunker)
- CAS 25-34-04, Motor Dr/Gr Assembly (Bunker)
- CAS 25-34-05, Motor Dr/Gr Assembly (Bunker)
- CAS 25-99-12, Fly Ash Storage
- CAS 25-99-18, Storage Area

The nine sites reportedly included soil and/or debris that exceeded clean-up criteria for total petroleum hydrocarbons (TPH), pesticides, metals, and radiological contamination. Historical details of the CASs are provided in the CAU 214 Corrective Action Investigation Plan (CAIP) (U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office [NNSA/NSO], 2003), and the CAU 214 Corrective Action Decision Document (CADD) (NNSA/NSO, 2004).

The corrective actions described in the CAU 214 Corrective Action Plan (CAP) (NNSA/NSO, 2005) were implemented from April 2006 through July 2006. This Closure Report (CR) has been prepared for CAU 214 in accordance with the FFACO and the Nevada Division of Environmental Protection (NDEP)-approved CAP.

1.1 PURPOSE

The purpose of this CR is to document that the closure of CAU 214 complied with the NDEP-approved CAP closure requirements (NNSA/NSO, 2005). The closure activities specified in the CAP were based on the approved corrective action alternatives presented in the CAU 214 CADD (NNSA/NSO, 2004).

1.2 SCOPE

The approved closure strategy for CAU 214 was specified in the CAU 214 CADD (NNSA/NSO, 2004). The approved alternative for CASs 11-22-03, 25-34-03, 25-34-04, 25-34-05, 25-99-12, and 25-99-18 was No Further Action. The approved alternative for CAS 05-99-01

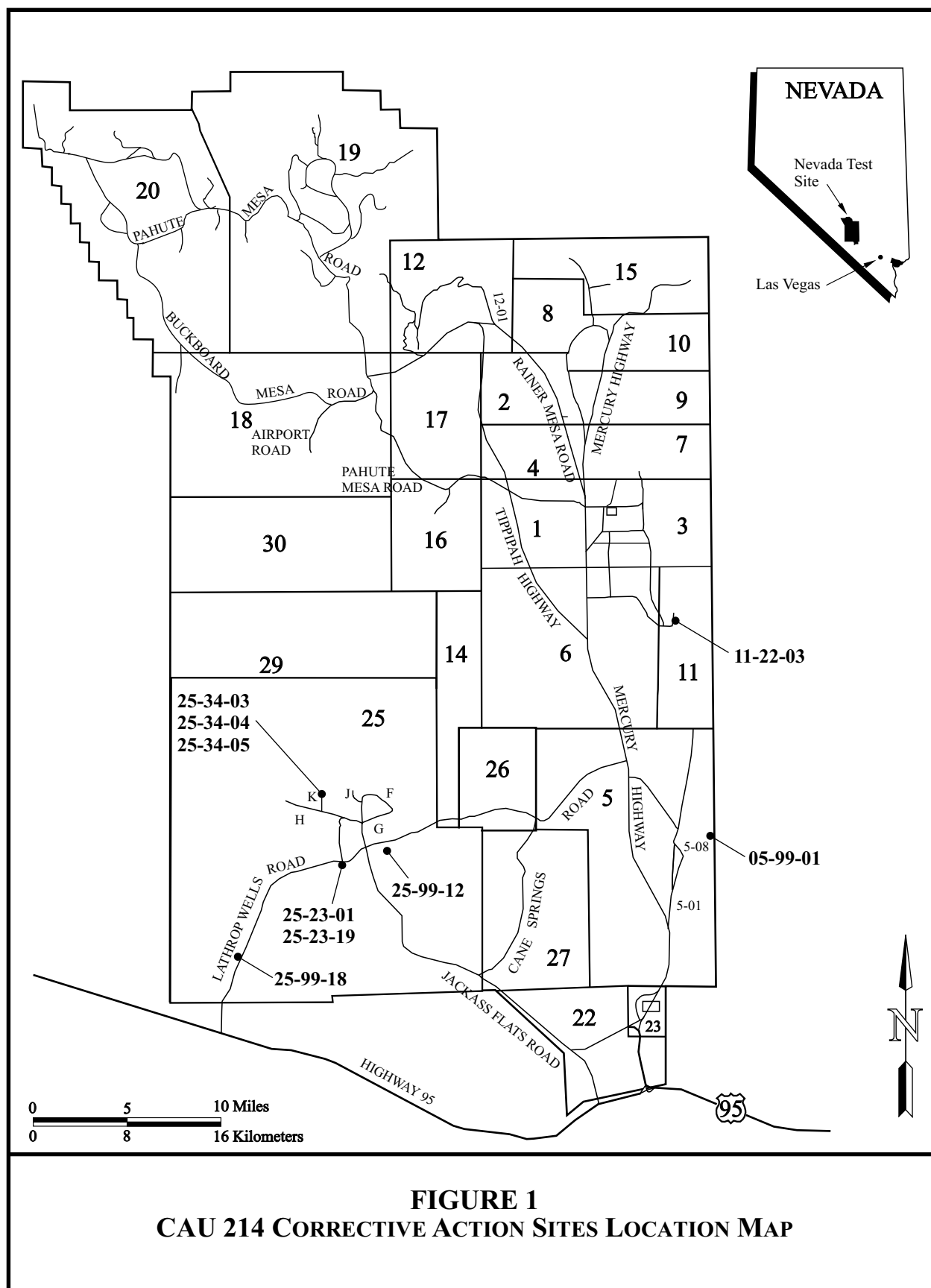


FIGURE 1
CAU 214 CORRECTIVE ACTION SITES LOCATION MAP

was Clean Closure, and the approved action alternative for CASs 25-23-01 and 25-23-19 was Closure in Place with Administrative Controls. The strategy for implementing this closure was presented in the CAU 214 CAP (NNSA/NSO, 2005).

Closure activities included:

- Removing and disposing of the fly ash and surrounding wooden structure at CAS 25-99-12 as a best management practice (BMP)
- Removing and disposing of soil contaminated with the pesticide dieldrin at CAS 05-99-01
- Removing and disposing of scattered wood and metal debris at CAS 25-23-01
- Removing and disposing of soil impacted with heptachlor, chlordane, chromium, and TPH at CAS 25-23-19
- Implementing Use Restrictions (UR) for CASs 25-23-01 and 25-23-19, as they were defined and delineated in the CAP
- Posting UR warning signs on the existing chain link fence around CASs 25-23-01 and 25-23-19 and implementing a UR

Detailed site-specific closure activities are presented in Section 2.0 of this report.

Data Quality Objectives (DQOs) were developed for the CAU 214 site characterization (NNSA/NSO, 2003) and are included in Appendix A of this report. Site closure was verified through inspections, sampling, observations, and documentation of waste disposal.

1.3 CLOSURE REPORT CONTENTS

This CR is divided into the following sections:

- 1.0 “Introduction” presents the purpose, general scope, and an overview of report contents.
- 2.0 “Closure Activities” describes the corrective actions completed, any deviations from the CAP, and the general closure schedule.
- 3.0 “Waste Disposition” describes the wastes generated and documents waste disposition.
- 4.0 “Closure Verification Results” describes the testing, inspections, and other measures used to confirm the completion of the corrective actions and the quality of results.
- 5.0 “Conclusions and Recommendations” describes the results, completion of implementation of the CAP, and any proposed changes to the post-closure monitoring plan.
- 6.0 “References” lists the supporting documents.

The appendices include relevant supporting documents:

- Appendix A, “Data Quality Objectives,” presents the DQOs developed in the CAU 214 CAIP (NNSA/NSO, 2003).
- Appendix B, “Analytical Results,” presents the summary analytical results for the soil verification samples collected at CASs 05-99-01, 25-23-01, and 25-23-19.
- Appendix C, “Waste Disposition Documentation,” contains copies of the load verification forms and recycling forms.
- Appendix D, “Field Photographs,” contains photographs of the CASs taken prior to, during, and after closure activities.
- Appendix E, “Use Restriction Information,” contains copies of the UR forms and figures to be filed.
- Appendix F, “*National Environmental Policy Act* (NEPA) Environmental Evaluation Checklist,” includes the checklist evaluating the environmental impact of site closure activities.

2.0 CLOSURE ACTIVITIES

This section of the CR details the specific activities involved in the closure of CAU 214.

2.1 DESCRIPTION OF CORRECTIVE ACTION ACTIVITIES

Closure of CAU 214 was completed using the approved CAP for CAU 214 (NNSA/NSO, 2005). The CAP was based on the recommendations presented in the CAU 214 CADD (NNSA/NSO, 2004).

Prior to beginning closure activities, the following pre-field activities were completed:

- Preparation of the NEPA documentation (NEPA Checklist)
- Preparation of a field management plan for CAU 214 (National Security Technologies, LLC [NSTec], 2005)
- Preparation of the site-specific health and safety plan for closure activities at CAU 214, (NSTec, 2006)
- Preparation of the work packages to control work
- Preparation of Real Estate/Operation Permits to authorize the work
- Utility surveys to ensure that all fieldwork would be conducted safely and without disruption of NTS infrastructure

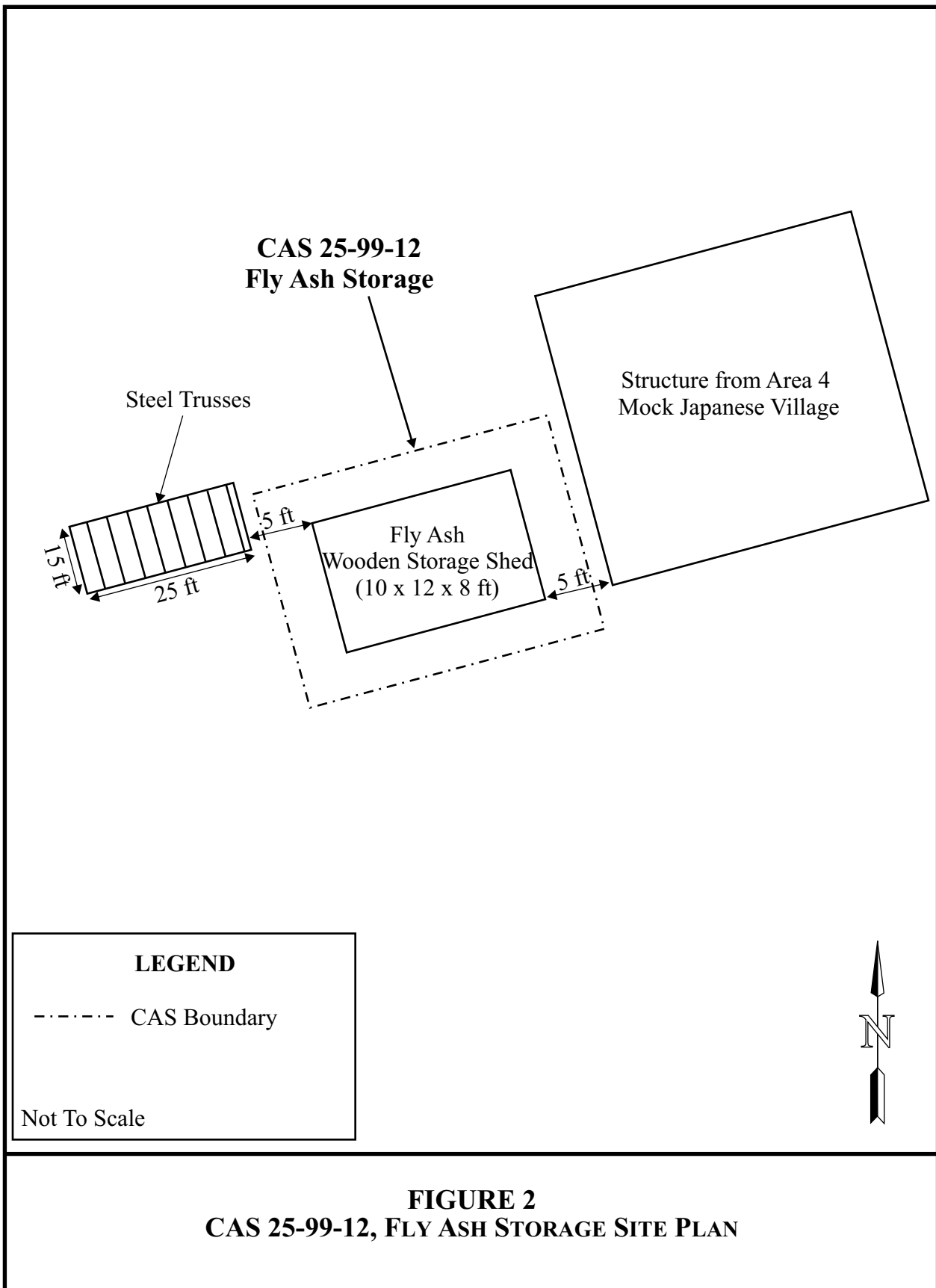
Closure activities began on April 24, 2006, and were completed on August 14, 2006. Surveys of UR areas were completed August 14, 2006. The following sections detail the closure activities implemented for CAU 214.

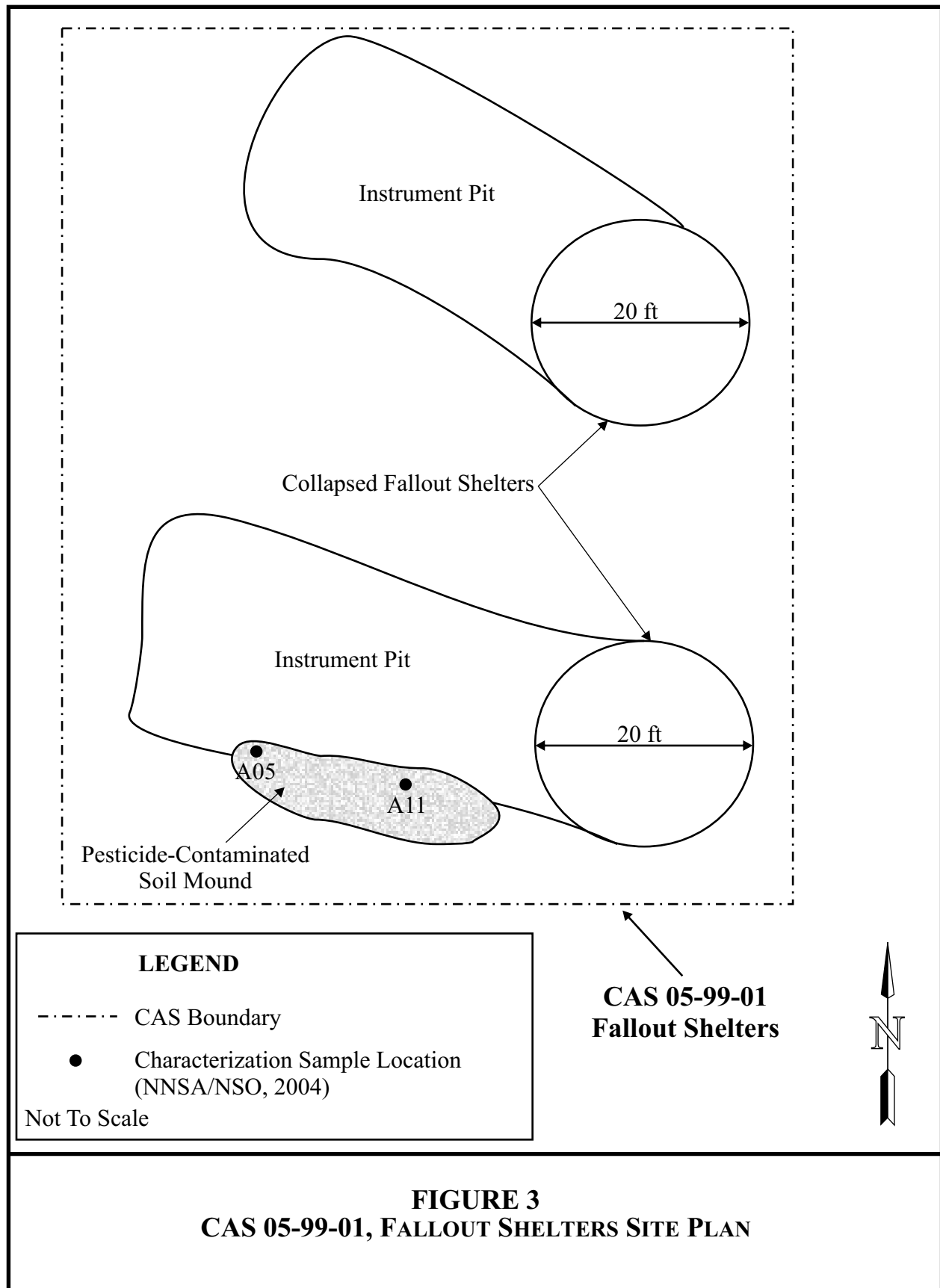
2.1.1 CAS 25-99-12, Fly Ash Storage

Figure 2 shows the site plan for CAS 25-99-12, which is located in Area 25 approximately 152 meters from the Bare Reactor Experiment Nevada Tower. The site consisted of a single wooden storage structure containing approximately 15 cubic yards (yd³) of fly ash. Though site characterization (NNSA/NSO, 2004) reported no contaminants of concern (COCs), as a BMP, the fly ash was removed, the structure was demolished, and all ash and construction debris was disposed of as sanitary waste. Because no COCs were present, no verification samples were required.

2.1.2 CAS 05-99-01, Fallout Shelters

Figure 3 shows the site plan for CAS 05-99-01, which is located in the Area 5 Frenchman Flat Historic District, and consisted of two collapsed fallout shelters and their adjacent instrument mounds and pits. The shelter foundations are still intact, while the shelter's aluminum-coated domes were severely damaged. Radiological contamination from nuclear weapons testing is not considered to be part of this CAS (NNSA/NSO, 2004).





Site characterization documents reported approximately 60 cubic meters (m³) on the south side of the southernmost fallout shelter to be contaminated with the pesticide dieldrin, which was excavated and disposed of as sanitary waste. Verification samples were taken to ensure the complete removal of dieldrin-impacted soil (see Section 4.0), and the excavation was backfilled from an approved borrow source and contoured to the surrounding grade.

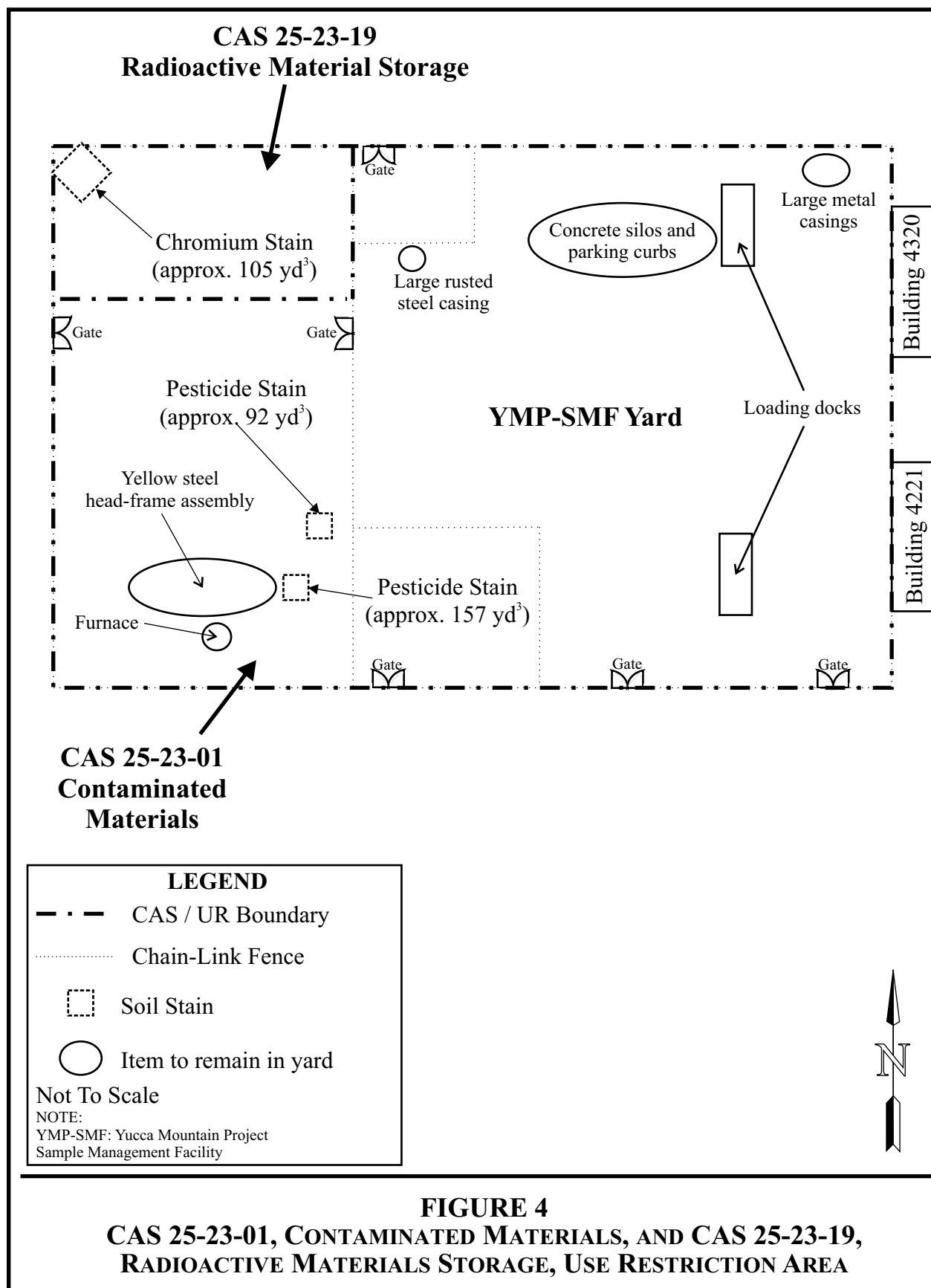
2.1.3 CAS 25-23-01, Contaminated Materials, and CAS 25-23-19, Radioactive Material Storage

Figure 4 shows the site plan and UR area for CASs 25-23-01 and 25-23-19. These sites, once a single storage yard, are located adjacent to one another west of the Yucca Mountain Project Sample Management Facility (YMP-SMF) in Area 25 and were historically used for the storage of radioactively contaminated equipment, components, drums, and tanks. All radioactive material was removed in 1995, leaving only wood, metal, and concrete debris (NNSA/NSO, 2004).

Site characterization documents reported multiple stained areas within the former storage yard. In CAS 25-23-01, two stained areas were reported to be contaminated with the pesticides chlordane and heptachlor above action levels, in addition to high levels of total petroleum hydrocarbons-diesel range organics (TPH-DRO). As a result, 70 m³ of contaminated soil at sample location D07, and 120 m³ of contaminated soil at sample location D10, was excavated and disposed of at an off-site facility. A third soil stain, located at CAS 25-23-19, was reported to be contaminated with chromium above action levels. Consequently, 80 m³ of impacted soil was excavated and disposed of at an off-site facility. Verification samples were taken (see Section 4.0), and the areas were backfilled with clean soil from an approved borrow source and contoured to the ambient topographic grade.

As a BMP, miscellaneous wood and metal debris, including metal framing, wooden pallets, and a dishwasher, were removed and disposed of as construction debris. Items deemed too large to remove were left in-place, as detailed by the CAU 214 CAP (NNSA/NSO, 2005).

A UR was implemented for TPH contamination remaining onsite by posting UR warning signs on the existing chain-link fence around the YMP-SMF. Post-closure inspections are detailed in Section 5.1 of this report. Appendix E includes the UR form and a figure showing surveyed points and UR Global Positioning System coordinates.



2.2 DEVIATIONS FROM CORRECTIVE ACTION PLAN AS APPROVED

There were no deviations performed during the implementation of the original CAU 214 CAP.

2.3 CORRECTIVE ACTION SCHEDULE AS COMPLETED

The completed closure field activities schedule is presented in Table 1.

TABLE 1. CAU 214 CLOSURE SCHEDULE

SITE	DATE CORRECTIVE ACTIONS COMPLETED*
CAS 05-99-01	July 06, 2006
CAS 25-23-01	July 24, 2006
CAS 25-23-19	August 14, 2006
CAS 25-99-12	July 20, 2006
Notes: * Corrective action activities do not include post-closure surveying and photo documentation site visits. Closure documentation work was completed August 25, 2006.	

2.4 SITE PLAN / SURVEY PLAT

No engineering “as-built” drawings were required for closure activities conducted at CAU 214.

3.0 WASTE DISPOSITION

Waste generated during CAU 214 closure activities included hazardous waste and sanitary waste. All waste was surveyed and managed according to federal and state regulations, DOE orders, and NSTec procedures. Some waste required sampling to verify the appropriate waste disposition. All waste was containerized, as needed, for proper disposal in an approved landfill. Table 2 summarizes disposition of each waste stream by site.

TABLE 2. DISPOSITION OF WASTE

CAS	MATERIAL	VOLUME OR WEIGHT ESTIMATE	DISPOSITION
05-99-01	TPH-impacted soil	~80 yd ³	NTS Area 9 U10c Sanitary Landfill
25-23-19	Pesticide-contaminated soil	258.26 tons	US Ecology Landfill (off-site)
	Miscellaneous sanitary waste / construction debris	<5 tons	NTS Area 9 U10c Sanitary Landfill
25-23-01	Chromium-contaminated soil	117.35 tons	US Ecology Landfill (off-site)
	Miscellaneous sanitary waste / construction debris	<5 tons	NTS Area 9 U10c Sanitary Landfill
25-99-12	Fly ash, wooden structure, miscellaneous construction debris	<5tons	NTS Area 9 U10c Sanitary Landfill

3.1 WASTE MINIMIZATION

Industry standard waste minimization practices were applied throughout the course of field activities. These practices included:

- Using laboratory analysis to characterize and classify waste streams

3.2 HAZARDOUS WASTE

Nearly 376 tons of hazardous waste in the form of chromium and pesticide-impacted soil excavated from within CASs 25-23-01 and 25-23-19 were disposed of by US Ecology. Waste disposal documentation is included in Appendix G of this report.

3.3 SANITARY WASTE

Sanitary waste, such as fly ash, wooden pallets, sanitary trash, personal protective equipment, and miscellaneous construction debris, was disposed of at the NTS Area 9 U10c Sanitary Landfill. Waste characterization samples were collected from the reported pesticide-contaminated soil mound at CAS 05-99-01. Five samples and a duplicate sample were collected from the mound and analyzed for gamma-emitters, isotopic-uranium, isotopic-plutonium,

strontium-90, Toxicity Characteristic Leaching Procedure (TCLP)-volatile organic compounds, TCLP-semi-volatile organic compounds, TCLP-metals, TPH, total pesticides, and TCLP-pesticides. All results except for TPH-DRO were less than regulatory waste levels. TPH-DRO results for several of the waste characterization samples were reported at levels exceeding the Nevada Action Level of 100 milligrams per kilogram (mg/kg), but these levels were within the acceptance criteria for on-site disposal, and the waste was disposed of at the Area 9 U10c Sanitary Landfill. Waste disposal documentation is included in Appendix G of this report.

4.0 CLOSURE VERIFICATION RESULTS

Site closure was verified by analyses and visual inspections.

At CAS 05-99-01, five verification samples and one duplicate sample were collected from the bottom and base of the sidewall of the shallow excavation (see Figure 5). Samples were collected on June 1, 2006, and analyzed for total pesticides (see Figure 5). Results were below action levels, verifying that the site was clean-closed.

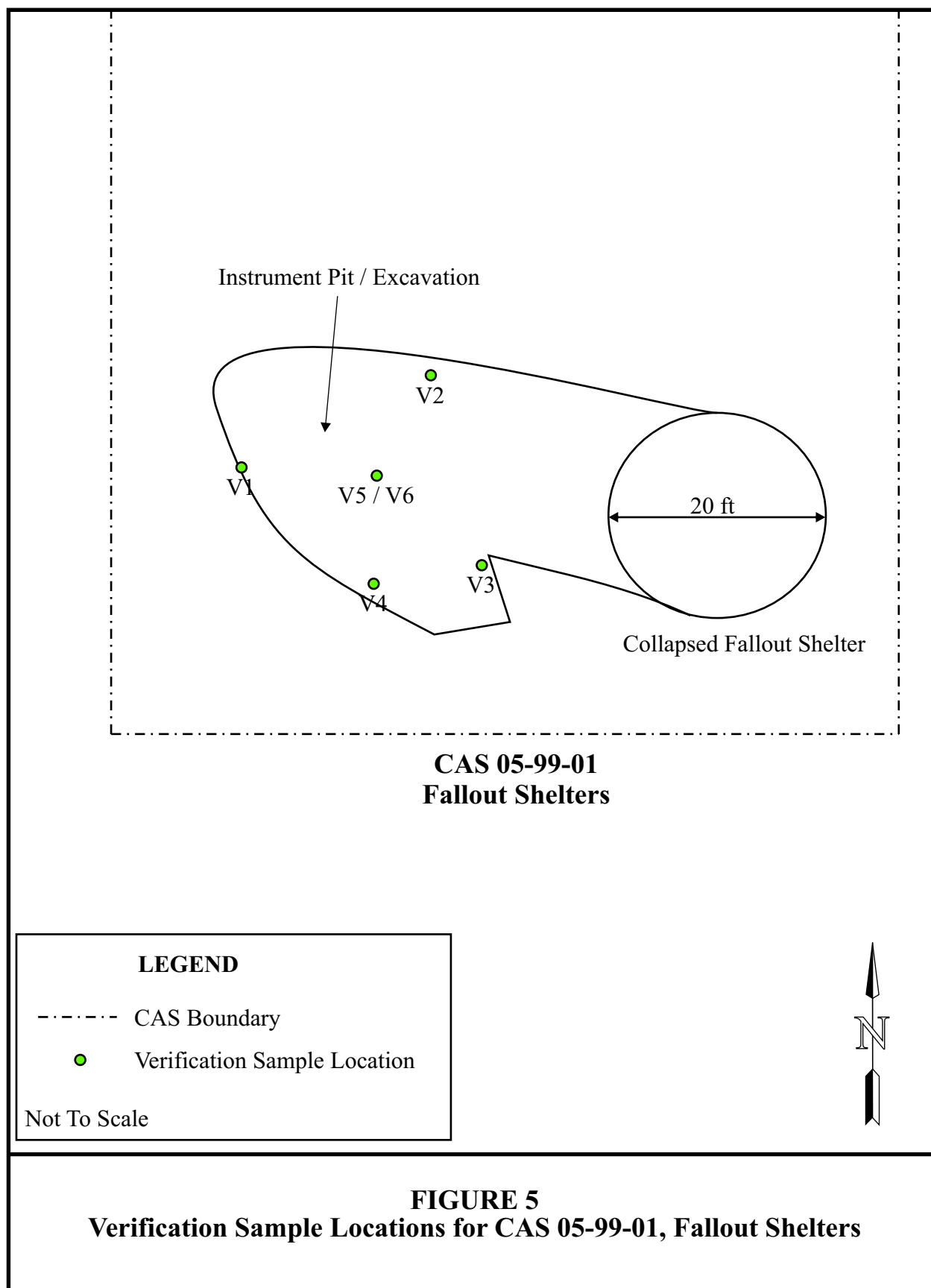
At CAS 25-23-19, six verification samples and one duplicate sample were collected from the bottom and base of the sidewall of the excavation (see Figure 6). Samples were collected on June 6, 2006, and analyzed for total Resource Conservation and Recovery Act (RCRA) metals. Results for all constituents except TPH were below action levels, and the site was closed in-place by implementing a UR.

At CAS 25-23-01, 11 verification samples and one duplicate sample were collected from the bottom and base of the sidewalls of two adjoined excavations (see Figure 7). Samples were collected on June 28, 2006, and analyzed for total pesticides. All results were below action levels verifying that the excavated areas are free of pesticides. Because of the presence of TPH, the CAS was closed in-place, and a UR was implemented.

AT CAS 25-99-12, the demolition of the Fly Ash building was verified by visual observation and photo documentation (see Appendix D). As no COCs were reported to be present during the initial site characterization (NNSA/NSO, 2004), no verification samples were required.

All samples were handled according to the *Industrial Sites Quality Assurance Project Plan* (QAPP) (U.S. Department of Energy National Nuclear Security Administration / Nevada Operations Office [NNSA/NV, 2002]). The samples were shipped under chain of custody to an approved off-site laboratory for analysis of pesticides and RCRA metals. Table 3, "Verification Sample Analytical Results," and Appendix B, "Analytical Results," summarize the results. The analytical results for soil verification samples collected from the excavations at all CAU 214 CASs were below the action standard for their respective COCs.

Criteria for verification sampling and backfilling were provided in the approved CAU 214 CAP (NNSA/NSO, 2005).



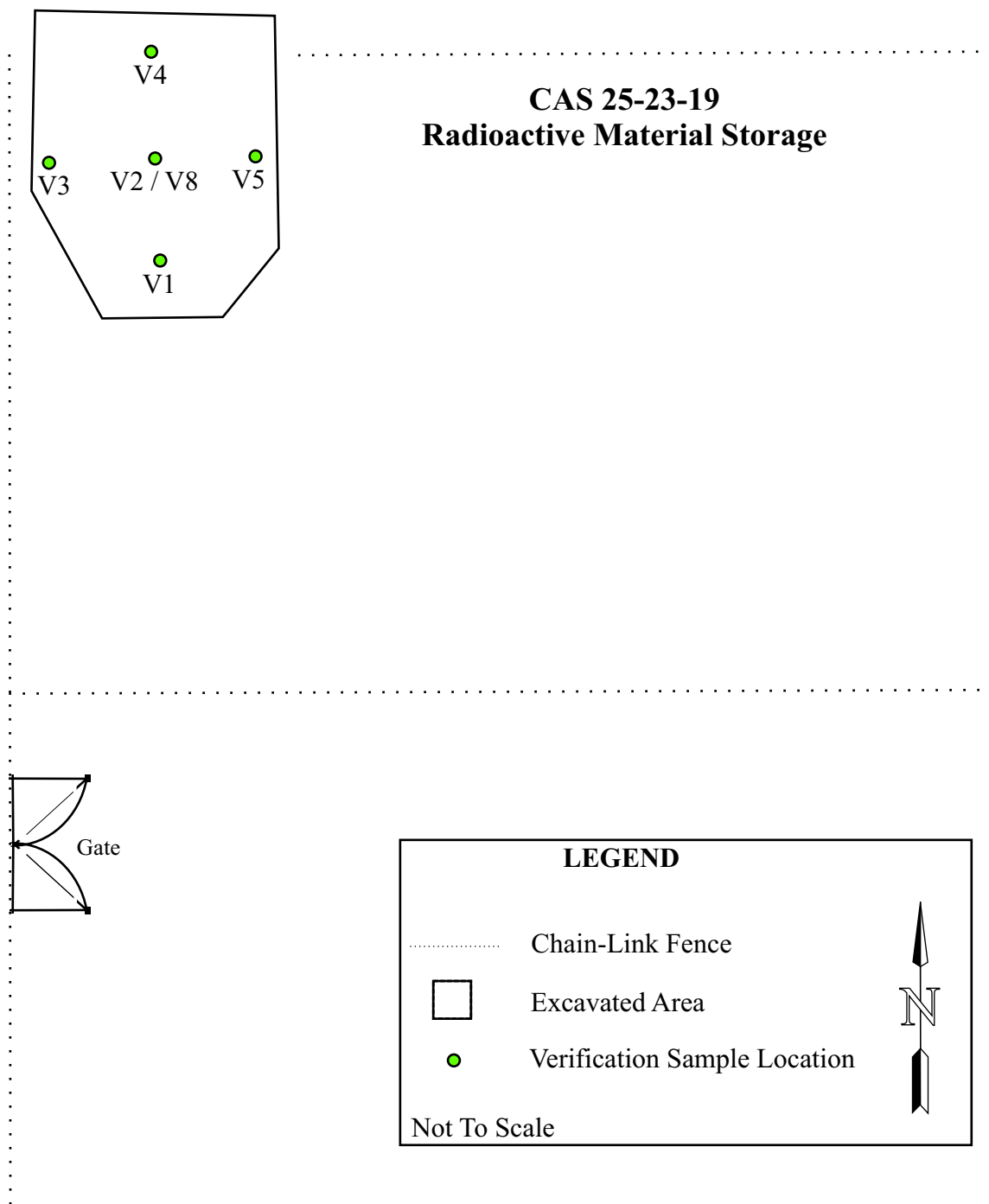


FIGURE 6
VERIFICATION SAMPLE LOCATIONS FOR CAS 25-23-19

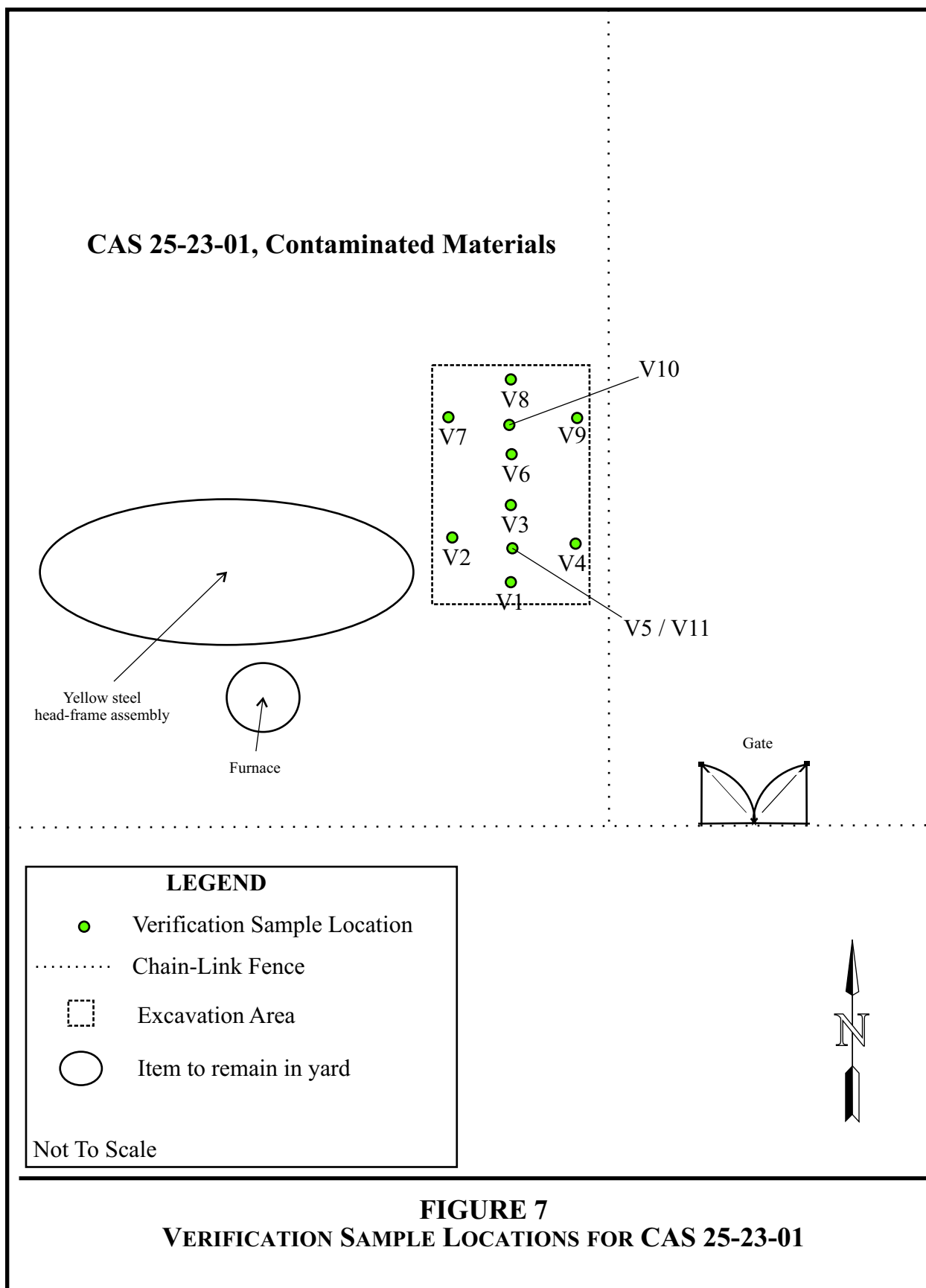


TABLE 3. VERIFICATION SAMPLE ANALYTICAL RESULTS

ANALYSIS ORDER	RESULTS			
SAMPLE NAME	Dieldrin (µg/kg)	Chromium (mg/kg)	Heptachlor (µg/kg)	Chlordane (µg/kg)
ACTION LEVEL:	1,100.0	450.0	38,000.0	6,500.0
059901-V1	1.9	NA	1.9	1.9
059901-V2	1.9	NA	1.9	1.9
059901-V3	1.9	NA	2.0	2.0
059901-V4	1.9	NA	1.9	1.9
059901-V5	1.9	NA	1.9	1.9
059901-V6 (Duplicate of 059901-V5)	1.9	NA	1.9	1.9
059901-R1	0.05 (µg/L)	NA	0.05 (µg/L)	0.05 (µg/L)
252301-V1	1.8	NA	1.8	1.8
252301-V2	1.7	NA	1.7	51
252301-V3	1.8	NA	1.8	0.7
252301-V4	1.7	NA	1.7	1.7
252301-V5	1.7	NA	1.7	11.8
252301-V6	1.7	NA	1.7	1.25
252301-V7	20	NA	3.3	840
252301-V8	14	NA	3.6	430
252301-V9	1.7	NA	1.7	5.7
252301-V10	1.7	NA	1.7	1.0
252301-V11 (Duplicate of 252301-V5)	0.41	NA	1.7	9.1
252301-R1	0.05 (µg/L)	NA	0.05 (µg/L)	0.05 (µg/L)
252319-V1	NA	8.9	NA	NA
252319-V2	NA	73.6	NA	NA
252319-V3	NA	14.8	NA	NA
252319-V4	NA	39.7	NA	NA
252319-V5	NA	5.8	NA	NA
252319-V6 (Duplicate of 252319-V2)	NA	71.8	NA	NA
252319-R1	NA	1.3 (µg/L)	NA	NA
Notes: µg/kg = micrograms per kilogram mg/kg = milligrams per kilogram µg/L = micrograms per liter NA = Not Analyzed AL = Action Level				

4.1 DATA QUALITY ASSESSMENT

Accurate and defensible analytical data were collected to verify that wastes and verification samples were properly characterized, managed, and disposed. The following sections describe the quality assurance/quality control (QA/QC) procedures, data validation process, and reconciliation of the conceptual site model with the observations and findings during the closure activities.

4.1.1 Quality Assurance/Quality Control Procedures

Detailed information about the QA/QC program can be found in the Industrial Sites QAPP (NNSA/NV, 2002). One duplicate verification sample per 20 samples or one duplicate per sampling event was collected and submitted blind to the laboratory for analysis. In addition, one equipment rinsate sample was collected per sampling event and submitted for analysis. Results showed no contamination resulted from the decontaminated sampling equipment. Analytical results for waste characterization samples were validated by the laboratory with respect to the data quality indicators. Matrix spikes, matrix spike duplicates, recoveries, and other standard QA/QC procedures were followed. The laboratory reports and validation reports indicate no problems with the usability of the data.

4.1.2 Data Validation

Data validation was performed in accordance with the Industrial Sites QAPP (NNSA/NV, 2002). All sample data were internally validated using Tier I. No anomalies were discovered in the data that would discredit any of the waste classification or verification samples collected and analyzed for CAU 214. Summary laboratory QA/QC data for verification samples are presented in Appendix B. The complete data set and verification reports are available on request. These data are maintained in project files located in Mercury, Nevada.

4.1.3 Conceptual Site Model

There were no discrepancies between the conceptual site model presented in the DQOs (Appendix A) and that observed in the field.

4.2 USE RESTRICTIONS

The CAU 214 CASs have been closed according to the approved CAP (NNSA/NSO, 2004). CAS 25-23-01 and CAS 25-23-19 were both closed by implementing a land UR due to the presence of elevated concentrations of TPH in the storage yard soil. FFACO UR guidance was followed when determining UR signage and posting locations (FFACO, 2003). The future use of the land within the posted UR area at CASs 25-23-01 and 25-23-19 shall not include any activity that may alter or modify the containment control as approved by the state of Nevada and identified in this document and any other CAU 214 documentation, unless appropriate concurrence from the NDEP is obtained in advance.

The specific location and post-closure monitoring requirements for the CAU 214 site UR are recorded on a "CAU Use Restriction Information Form." The information on the completed

form was added to the Facility Information Management System and the FFACO database available through the World Wide Web. The original “CAU Use Restriction Form” was filed with the CAU 214 project files. A copy of the CAU 214 UR information, along with a site plan showing the location of the UR areas, is included in Appendix E of this report.

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5.0 CONCLUSIONS AND RECOMMENDATIONS

CAU 214 was closed according to the FFACO and the NDEP-approved CAP for CAU 214 (NNSA/NSO, 2005). Closure of CAU 214 was accomplished by completing the following tasks:

- Removing and disposing of the fly ash and surrounding wooden structure at CAS 25-99-12
- Removing and disposing of soil reportedly contaminated with the pesticide dieldrin at CAS 05-99-01
- Removing and disposing of scattered wood and metal debris at CAS 25-23-01
- Removing and disposing of soil impacted with heptachlor, chlordane, and TPH at CAS 25-23-19
- Removing and disposing of soil impacted with chromium and TPH at CAS 25-23-01
- Implementing URs for CASs 25-23-01 and 25-23-19, as defined and delineated in the CAP
- Posting UR warning signs on the existing chain-link fence around CASs 25-23-01 and 25-23-19

According to the CAU 214 CADD, no COCs were reported and no further action was taken at the following CASs:

- CAS 11-22-03, Drum
- CAS 25-34-03, Motor Dr/Gr Assembly (Bunker)
- CAS 25-34-04, Motor Dr/Gr Assembly (Bunker)
- CAS 25-34-05, Motor Dr/Gr Assembly (Bunker)
- CAS 25-99-18, Storage Area

5.1 POST-CLOSURE MONITORING REQUIREMENTS

5.1.1 Inspections

Inspections will be performed on an annual basis for the first 5 years and once every 5 years thereafter, for a total of 30 years. Inspections will consist of visual observations to verify that the fence is in good condition, warning signs at each CAS are in place and readable, and that the UR is maintained. The interiors of the UR areas will also be inspected to confirm there have been no disturbances to the area. If any maintenance and repair requirements are identified, funding will be requested and the repairs scheduled. Any repairs will be documented in writing at the time of repair.

The condition of the fencing and postings will be documented in the combined NTS post-closure annual letter report. The letter report will include a discussion of observations and provide a record of any maintenance activities. A copy of the letter report will be submitted to NDEP.

5.2 NOTICE OF COMPLETION

Based upon the completion of site activities, it is requested that a “Notice of Completion” be provided by NDEP for CAU 214. Upon closure approval, CAU 214 will be moved from Appendix III to Appendix IV, “Closed Corrective Action Units,” of the FFACO.

6.0 REFERENCES

FFACO, see *Federal Facility Agreement and Consent Order*.

Federal Facility Agreement and Consent Order. 1996 (as amended). Agreed to by the State of Nevada, the U.S. Department of Energy, and the U.S. Department of Defense.

Federal Facility Agreement and Consent Order. 2003. Use Restriction Posting Guidance.

National Security Technologies. LLC, 2005. *Field Management Plan for Corrective Action Unit 214: Bunkers and Storage Areas, Nevada Test Site, Nevada*. December 2005. Las Vegas, NV.

National Security Technologies. LLC, 2006. *Site-Specific Site Health and Safety Plan for CAU 214*. Las Vegas, NV.

NNSA/NSO, see U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office.

NNSA/NV, see U.S. Department of Energy, National Nuclear Security Administration Nevada Operations Office.

NSTec, see National Security Technologies, LLC.

U.S. Department of Energy, National Nuclear Security Administration Nevada Operations Office 2002. *Industrial Sites Quality Assurance Project Plan, Nevada Test Site, Nevada*, Rev. 3. DOE/NV--372. Las Vegas, NV.

U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office. 2003. *Corrective Action Investigation Plan for Corrective Action Unit 214: Bunkers and Storage Areas, Nevada Test Site, Nevada*, Rev. 0. DOE/NV--893. Las Vegas, NV.

U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office. 2004. *Corrective Action Decision Document for Corrective Action Unit 214: Bunkers and Storage Areas, Nevada Test Site, Nevada*, Rev. 0. DOE/NV--956. Las Vegas, NV.

U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office. 2005. *Corrective Action Plan for Corrective Action Unit 214: Bunkers and Storage Areas, Nevada Test Site, Nevada*, Rev. 0. DOE/NV--1040. Las Vegas, NV.

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APPENDIX A

DATA QUALITY OBJECTIVES*

* As previously published in the *Corrective Action Investigation Plan for Corrective Action Unit 214: Bunkers and Storage Areas, Nevada Test Site, Nevada*, Rev. 0. DOE/NV--893.

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Appendix A.1

Data Quality Objectives

A.1 Data Quality Objectives Process for CAU 214

The Data Quality Objectives process described in this appendix is a seven-step strategic planning approach based on the scientific method was used to plan data collection activities at CAU 214, Bunkers and Storage Areas. The DQOs are designed to ensure that the data collected will provide sufficient and reliable information to identify, evaluate, and technically defend recommended corrective actions (i.e., no further action, closure in place, or clean closure). Information about the nature and extent of contamination at the CASs in CAU 214 is insufficient to evaluate and select preferred corrective actions at this time; therefore a CAI will be required.

The CAU 214 CAI will be based on the DQOs presented in this appendix as developed by representatives of the NDEP and the NNSA/NSO. The seven steps of the DQO process developed for CAU 214 and presented in [Section A.1.2](#) through [Section A.1.8](#) were developed based on the CAS-specific information presented in [Section A.1.1](#) and in accordance with *EPA Guidance for Quality Assurance Project Plans*, EPA QA/G-5, 1998. This document identifies and references the associated EPA Quality System Document for DQOs entitled *Data Quality Objectives Process for Hazardous Waste Site Investigations* (EPA, 2000) upon which the DQO process presented herein is based.

A.1.1 CAS-Specific Information

The nine CASs in CAU 214 are located in Areas 5, 11, and 25 of the NTS, as shown in [Figure A.1-1](#). The CASs include:

- 05-99-01, Fallout Shelters
- 11-22-03, Drum
- 25-99-12, Fly Ash Storage
- 25-23-01, Contaminated Materials
- 25-23-19, Radioactive Material Storage
- 25-99-18, Storage Area
- 25-34-03, Motor Dr/Gr Assembly (Bunker)
- 25-34-04, Motor Dr/Gr Assembly (Bunker)
- 25-34-05, Motor Dr/Gr Assembly (Bunker)

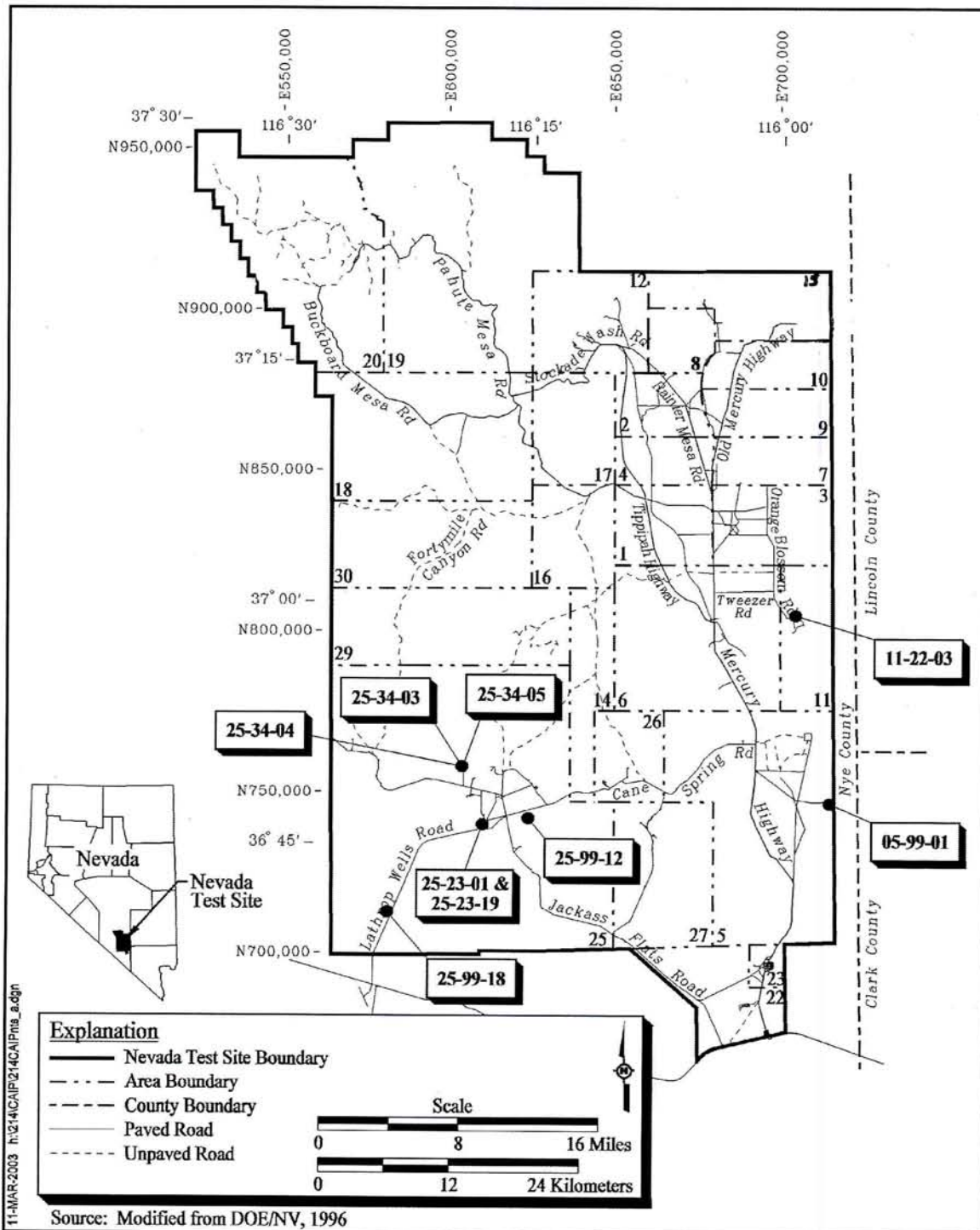


Figure A.1-1
CAU 214, CAS Location Map

Table A.1-1
CAU 214 Contaminants of Potential Concern

Corrective Action Site	05-99-01 Fallout Shelters	11-22-03 Drum	25-99-12 Fly Ash Storage ^a	25-23-01 Contaminated Materials	25-23-19 Radioactive Material Storage	25-99-18 Storage Area	25-34-03, 25-34-04, 25-34-05 Motor Dr/Gr Assembly (Bunker)
COPC							
Organics							
TPH (DRO)		X		C	C	C	X
TPH (GRO)		X		X	X	C	X
PCBs	X	X	X	C	C	X	X
VOCs	X	X		X	X	X	X
SVOCs	X	X		X	X	X	
Pesticides				C, X ^b	C, X ^b		
Herbicides				X	X		
Inorganics							
Asbestos	X					X	
Metals							
RCRA Metals, Beryllium	X	X	C, X ^c	C, X ^d	C, X ^e	X	
Radionuclides							
Gamma Spectrometry	X	X	X	X	X	X	X
Strontium-90	N		N	X	X	N	N
Isotopic Uranium	N		N	X	X	N	N
Isotopic Plutonium	N	X	N	X	X	N	N

C = Critical COPC

X = Noncritical COPC

N = Results of gamma analysis will be used to determine if further radioanalytical analysis is warranted.

^aIn addition to COPCs listed, samples will be analyzed for pH

^bChlordane, heptachlor, and 4,4'-DDT are critical COPCs; remaining pesticides are noncritical COPCs

^cArsenic is a critical COPC; remaining RCRA metals and beryllium are noncritical COPCs

^dArsenic, barium, cadmium, and chromium are critical COPCs; remaining RCRA metals and beryllium are noncritical COPCs

^eChromium is a critical COPC; remaining RCRA metals and beryllium are noncritical COPCs

The CAS-specific COPCs are described in the following CAS descriptions and listed in [Table A.1-1](#). Critical COPCs are defined as those contaminants that are known or reasonably suspected to be present within the CAS based on previous sampling, process knowledge, geographic setting, and/or operational site history. Noncritical COPCs are defined as those contaminants that may be present within a CAS. Analyses for noncritical COPCs assist in reducing the uncertainty concerning the history and potential release from the CAS and allow for an accurate evaluation of potential contamination.

If any COPC is detected in any sample at a concentration above a PAL, the COPC will be identified as a COC. If a COC is identified, the CAS containing that COC will be further investigated to determine the extent of COC contamination.

Soil contamination originating from the fallout of atmospheric nuclear weapons testing in the vicinity of CAS 05-99-01 and CAS 11-22-03 is not considered part of this CAU. Contamination originating from these sources will not be considered for sample location selection, and/or will not be considered COCs for Decision II. If fallout contamination is detected, it will be addressed by the Soils Project.

The following sections ([Section A.1.1.1](#) through [Section A.1.1.6](#)) provide a CAS description, physical setting and operational history, sources of potential contamination, previous investigation results, and COPCs for each CAS in CAU 214.

A.1.1.1 CAS 05-99-01, *Fallout Shelters*

Corrective action site 05-99-01 consists of the soil in the ramp entrance and instrument pit floor within the footprint of the fallout shelters and soil surrounding the fallout shelter structures. The structures at the CAS include two domed aluminum fallout shelters, their adjacent instrument pits and dirt mounds, and surrounding debris associated with the shelters. [Figure A.1-2](#) shows a site sketch of the CAS.

Physical Setting and Operational History - CAS 05-99-01 is located on Frenchman Flat in Area 5. The shelter foundations are constructed of concrete and steel and the domes were coated with aluminum sheeting bonded to asbestos cloth (DASA, 1960). The shelters were built during Operation Plumbbob in 1957 and instrumented to study the effects of nuclear blasts on different construction types and structure design. Both domes were destroyed and collapsed during the tests, although the

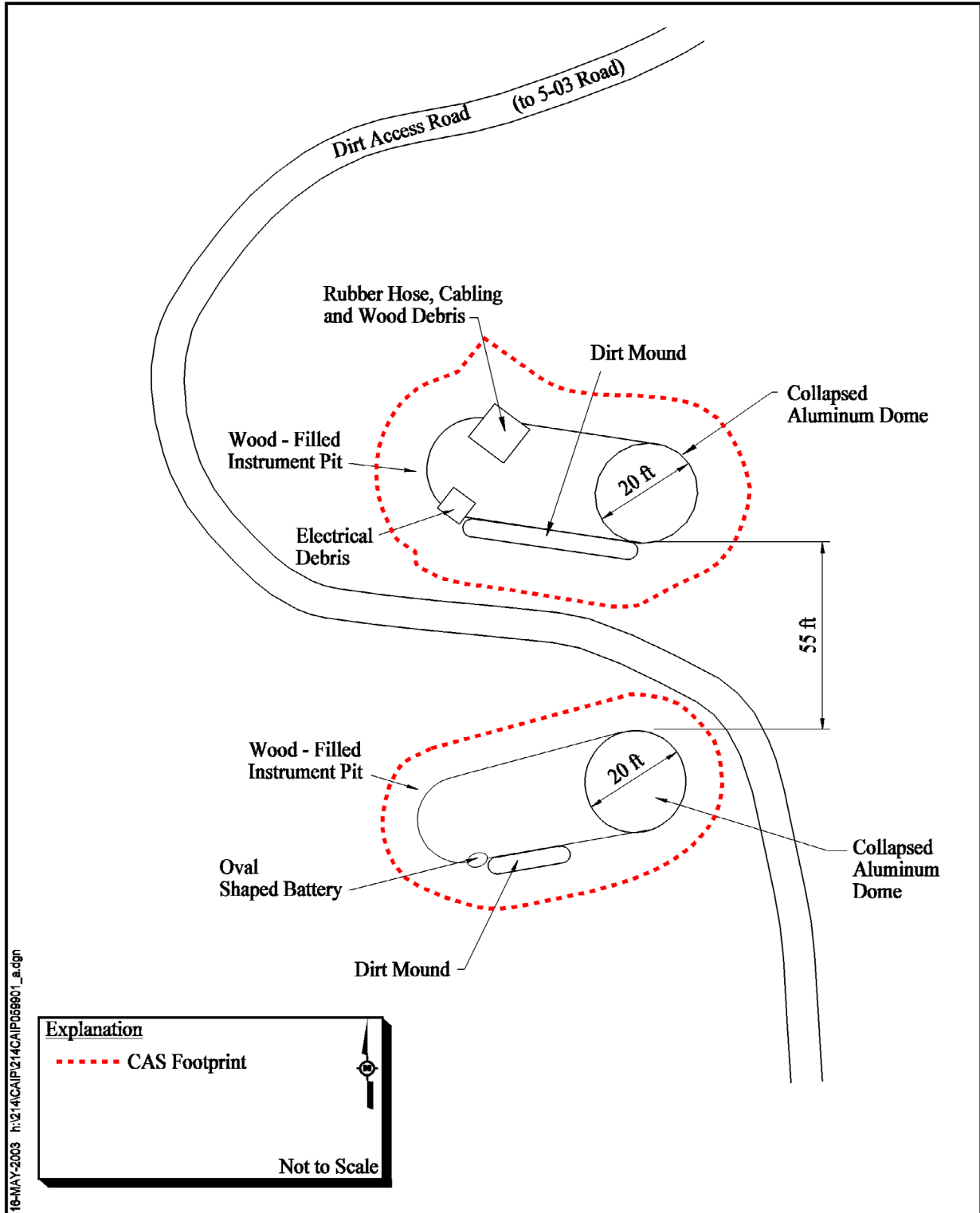


Figure A.1-2
Site Sketch of CAS 05-99-01, Fallout Shelters

foundations are still intact. The shelters have been identified as being potentially eligible for inclusion in the National Register of Historic Places in the *Nevada Test Site Historic Building Survey* (DRI and Carey & Co., 1996).

There is some debris mixed with soil in the immediate vicinity of the shelters. There is an excavated area on the downwind side of each shelter that served as an instrument pit and to provide access to shelter doors located below grade.

Sources of Potential Contamination - There is no indication that the equipment and materials inside of the fallout shelters or operations associated with the shelters are source(s) of potential contamination. There are no visible soil stains or other biasing factors at either fallout shelter, although the excavations are filled with tumbleweeds and the bottoms of the excavations cannot be fully observed. However, asbestos material is potentially present in the soil at the fallout shelters. Radioactive fallout contamination due to nuclear weapons testing is not included in this CAS.

Previous Investigation Results - No previous investigations have been identified for this CAS.

Contaminants of Potential Concern - The COPCs identified for CAS 05-99-01 are shown in [Table A.1-1](#). There are no critical COPCs identified for this CAS. Noncritical COPCs include PCBs, VOCs, SVOCs, asbestos, RCRA metals, beryllium, and gamma-emitting radionuclides. Asbestos from the destroyed domes is potentially mixed in the soil or present on the ground surface, which will pose a health and safety consideration during the investigation of this CAS.

A.1.1.2 CAS 11-22-03, Drum

Corrective Action Site 11-22-03 consists of one 55-gallon, open-top drum with the lid in place; one 55-gallon open-top drum without a lid (cable was observed in this drum); and two piles of rusted cable (approximately 5 cubic yards). [Figure A.1-3](#) shows a site sketch of the CAS.

Physical Setting and Operational History - CAS 11-22-03 is located in Area 11 and is within a radiologically-posted and fenced area labeled, “Danger High Contamination Area,” and “Caution Underground Radioactive Materials.” Area 11 (Plutonium Valley) was the site of four nuclear safety experiments in 1955 and 1956 (DASA, 1960). Although soil throughout this area is contaminated from the safety experiments, it is not known if contamination was released from the drums and cable

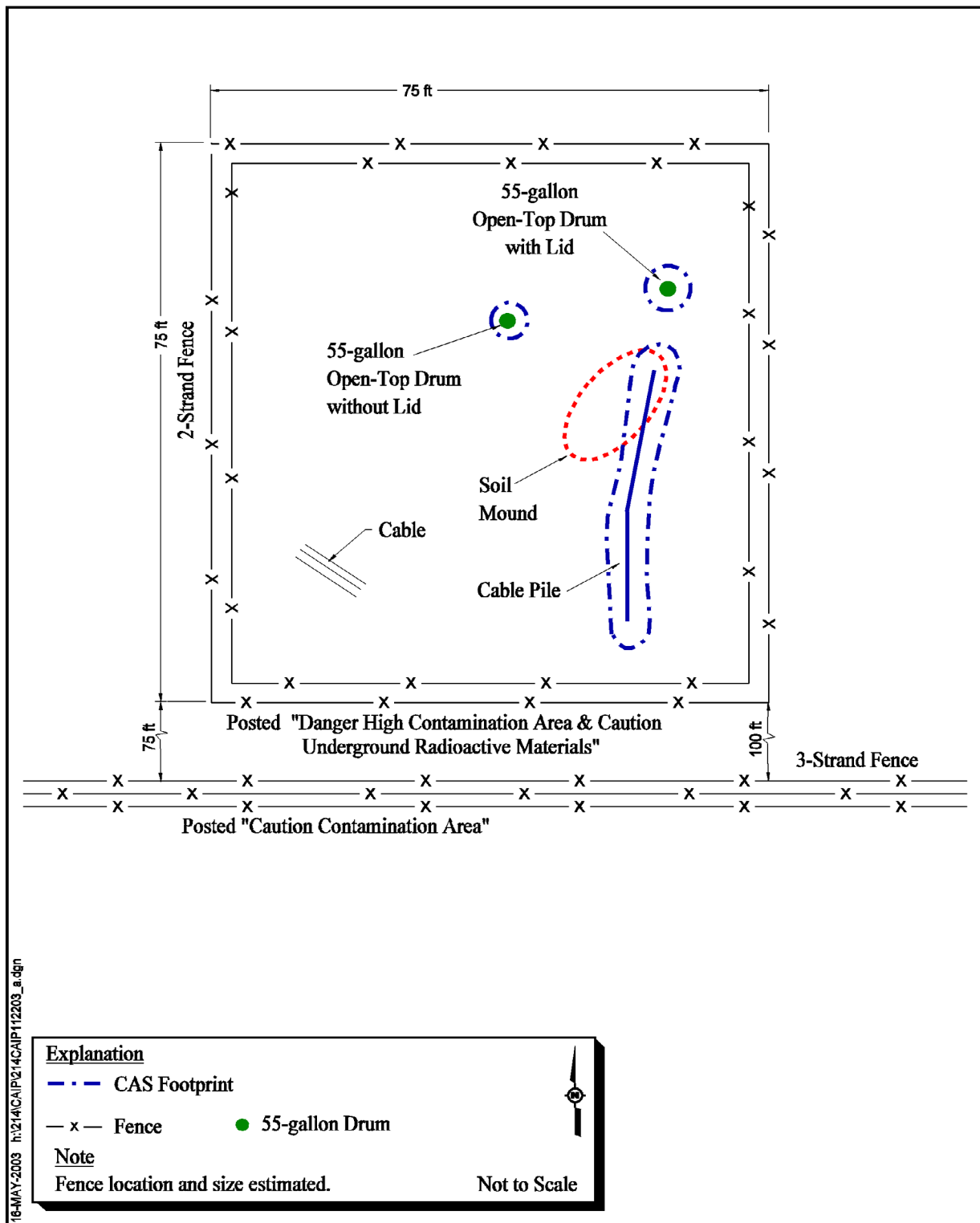


Figure A.1-3
Site Sketch of CAS 11-22-03, Drum

that constitute this CAS. It is also not known if the drums and cable pile were generated from the safety experiments. The source and contents of the drums are unknown except for the cable and metal that are visible in the open drum.

Sources of Potential Contamination - Although unlikely, sources of potential soil contamination are unknown fluids or solids leaking from the drums, or spills from the drums that may have occurred during drum transport or handling. Soil contamination associated with the drums and cable pile is not expected. Radioactive contamination resulting from the safety experiments and atmospheric nuclear testing is not considered part of this CAS.

Previous Investigation Results - No sampling of the drums or cable pile has been conducted. Four profile soil samples were collected from nearby contaminated waste dumps, created during early cleanup efforts. Analytical results show that plutonium isotopes are present in the top 2 in. of soil (DRI, 1988).

Contaminants of Potential Concern - The COPCs identified for CAS 11-22-03 are shown in [Table A.1-1](#). No critical COPCs have been identified. Noncritical COPCs include TPH (DRO), TPH (GRO), PCBs, VOCs, SVOCs, RCRA metals, beryllium, gamma-emitting radionuclides, isotopic plutonium and daughter products.

A.1.1.3 CAS 25-99-12, Fly Ash Storage

Corrective Action Site 25-99-12 consists of a small wooden structure (i.e., shed; dimension 10 x 12 x 8 ft) and its contents (approximately 15 cubic yards of unconsolidated, lightweight, white, and powdery material believed to be fly ash). [Figure A.1-4](#) shows a site sketch of the CAS.

Physical Setting and Operational History - CAS 25-99-12 is located near the BREN Tower in Area 25. The structure is in poor condition, exterior walls (plywood) bulging on all sides, and is held together with metal bands. Some of the contents (presumed to be fly ash) have migrated out of the structure through openings in the walls, door opening, and open windows. Fly ash is present on the ground surface around the structure.

The storage structure is located west of a one-story wooden building with oriental-style architecture, which may have been moved to the site from the Japanese village in Area 4. The exact use of either

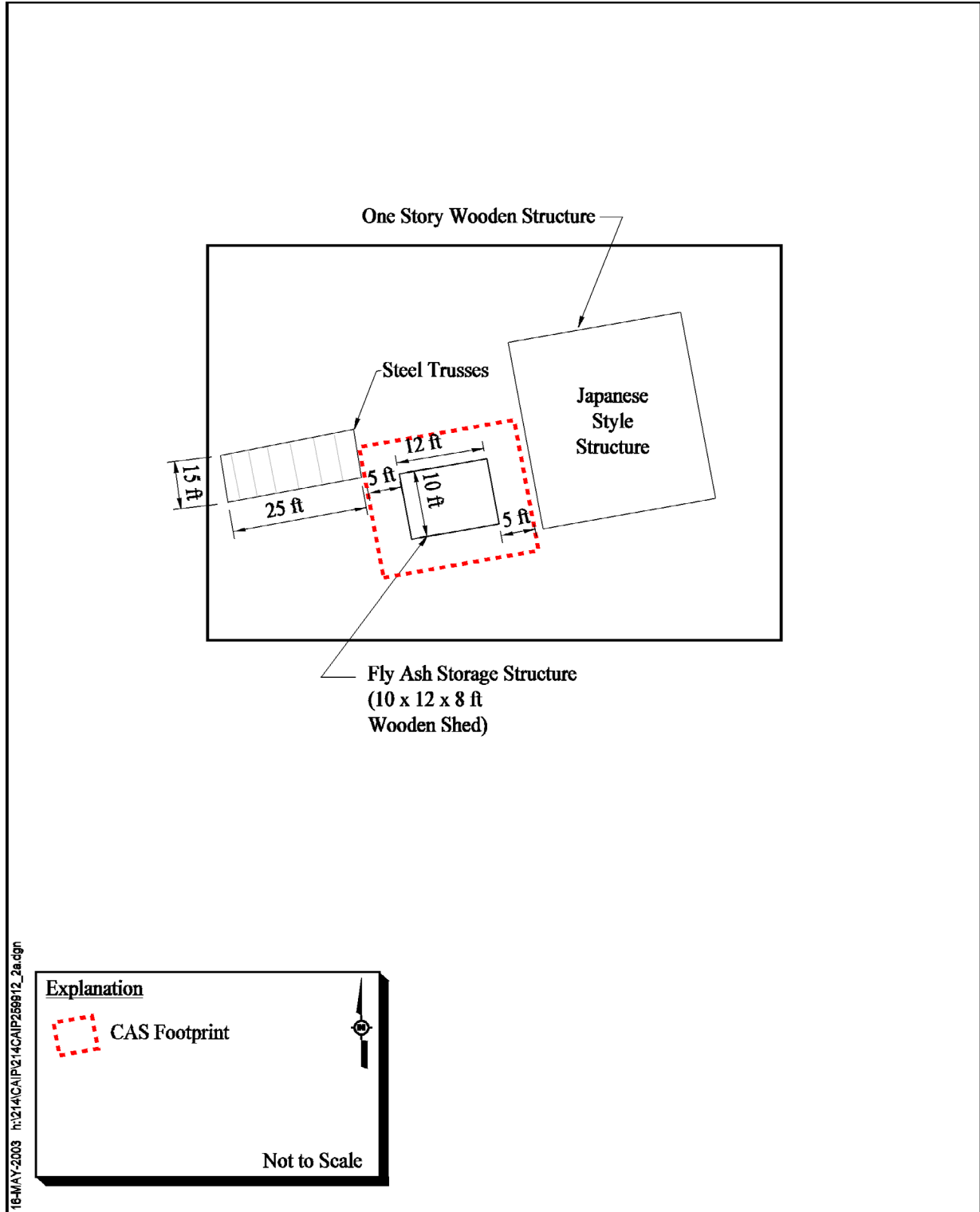


Figure A.1-4
Site Sketch of CAS 25-99-12, Fly Ash Storage

building is unknown, though they may have been used in various experiments at the BREN Tower. The source of the fly ash is unknown.

Sources of Potential Contamination - The source of potential soil contamination is fly ash migrating out of the storage structure.

Previous Investigation Results - One sample of the fly ash from the storage structure was collected during the preliminary process. This sample was analyzed for RCRA metals, TCLP RCRA metals, pH, and gamma-emitting radionuclides. The RCRA metals analysis indicated an arsenic concentration of 16 mg/kg which is above the PAL. Barium, chromium, lead, selenium, and silver were not detected above PALs. The TCLP metals analysis indicated all metals, including arsenic, were below RCRA characteristic waste levels. The pH of the soil in the stained area was reported as 12. Gamma-emitting radionuclides were not detected above PALs.

Contaminants of Potential Concern - The COPCs identified for CAS 25-99-12 are shown in [Table A.1-1](#). The sole critical COPC is arsenic. Noncritical COPCs include PCBs, the remaining RCRA metals, beryllium, and gamma-emitting radionuclides. The fly ash itself is not considered a COPC, although a Material Safety Data Sheet for fly ash states that, depending on jurisdiction and use, it may be considered hazardous. Fly ash may also contain complex aluminosilicate glass, mullite, hematite, magnetite, spinel, and quartz. As noted above, the pH of the fly ash is basic. The health and safety implications of these characteristics will be considered during investigation planning.

A.1.1.4 CAS 25-23-01, Contaminated Materials and CAS 25-23-19, Radioactive Material Storage

Corrective action sites 25-23-01 and 25-23-19 consist of contaminant releases from materials stored in a materials storage yard. [Figure A.1-5](#) shows a site sketch of the CASs.

Physical Setting and Operational History - CASs 25-23-01 and 25-23-19 are located west of the Yucca Mountain Project Sample Management Facility in the Area 25 support compound. Corrective Action Site 25-23-01 is the southern portion of the yard and CAS 25-23-19 is the northern third portion of the yard.

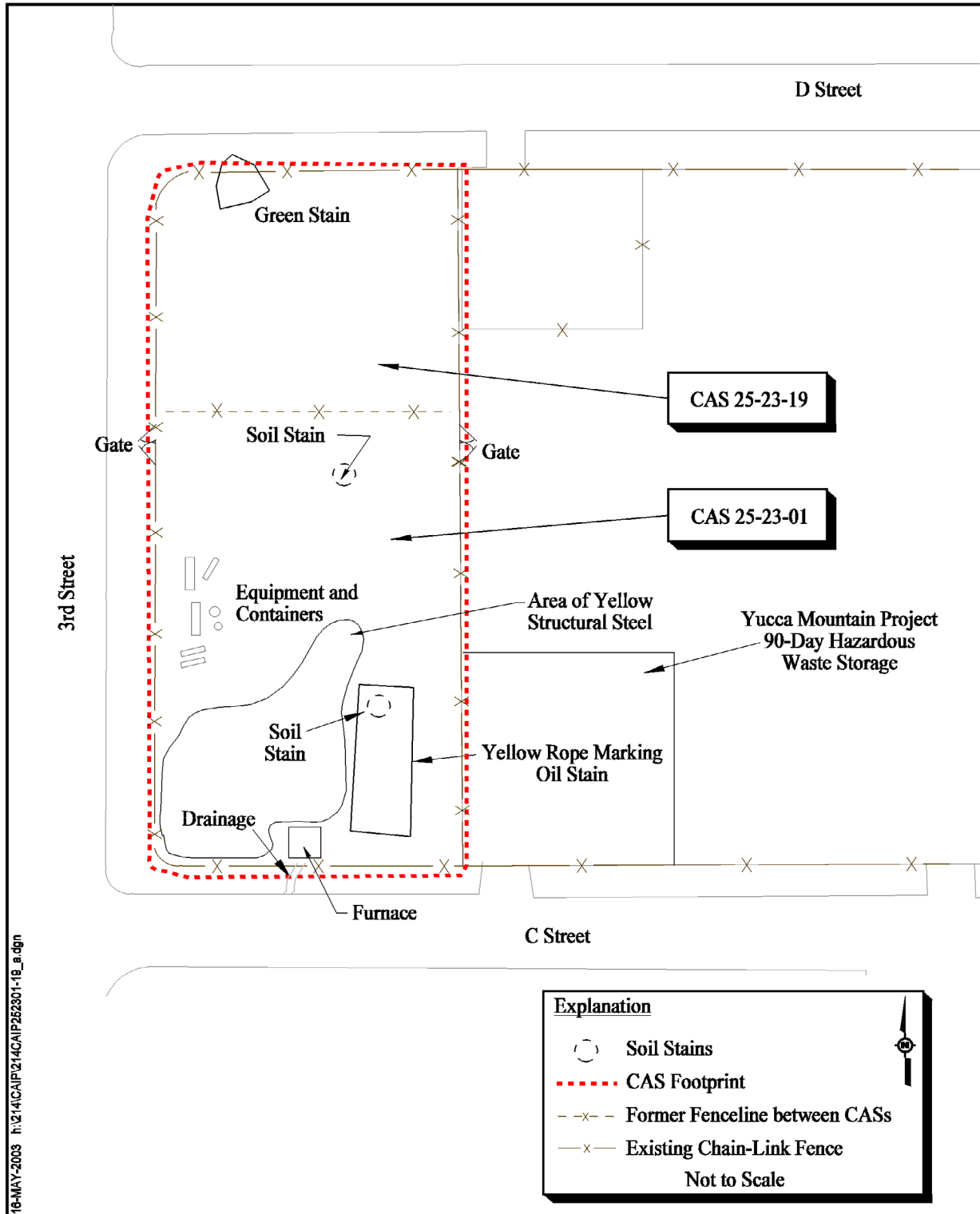


Figure A.1-5
Site Sketch of CAS 25-23-01, Contaminated Materials, and
CAS 25-23-19, Radioactive Materials Storage

The yard was historically used to store radioactive equipment, hazardous waste, heavy equipment, reactor components, and drums and tanks containing unspecified material. Some of the material stored in the yard was originally generated at Test Cell A and Test Cell C (Sorom, 1998). In the mid-1990s, radiologically-contaminated material was segregated into the northern portion of the storage yard as a posted and fenced RMA. This RMA was designated as CAS 25-23-19 and the remainder of the yard was designated as CAS 25-23-01. Cleanup of the yard began in 1995 and solid waste, scrap metal, and equipment were taken to the Area 23 salvage yard. In 1995, 20,000 pounds of radioactively contaminated material and equipment from the RMA was taken to the Area 25 RMSF and the fence between the two CASs was removed (Kendall, 1995).

A recent site visit identified metal and wood debris, bottles and cans containing unknown material, heavy equipment, a furnace, and an empty drum on a pallet within the CAS 25-23-01 storage yard. No equipment or debris was observed within the CAS 25-23-19 storage yard. An area of oil staining is located in the southeast section of CAS 25-23-01. A green stain roughly 20 ft in diameter, is located in the northwest corner of CAS 25-23-19. This stain straddles the fence line and thus is partially located outside the yard.

Sources of Potential Contamination - The source of potential soil contamination is materials released or eroded from solids and/or fluids stored in the yard. In particular, a black oily liquid from a drum may have been released to the soil. Other contamination sources have largely been removed and disposed as nonhazardous (Guymon, 1995), although several containers with unknown contents are still present in CAS 25-23-01.

Previous Investigation Results - Various liquid and soil samples have been collected at the site. In 1993, three soil samples were collected from an oil-stained area and analyzed for TPH, TCLP metals, TCLP SVOCs, and gamma-emitting radionuclides. The highest detected concentration of TPH was 45,600 mg/kg. No TCLP metals were identified above RCRA characteristic waste limits and gamma-emitting radionuclides were below PALs. The TCLP SVOCs results were no longer available when requested from the laboratory.

A black oily substance in a deteriorating drum located within the oil-stained area was also sampled in 1993. The following substances were identified at the given concentration: chromium at 9.8 mg/kg; heptachlor at 23,000 mg/kg; chlordane at 24,000 mg/kg; nonachlor at 15,000 mg/kg; and PCBs at

4,900 mg/kg. A sample was collected in 1994 from the surface soil where the drum was located. This sample was analyzed for PCBs, TCLP SVOCs, TCLP metals and gamma-emitting radionuclides. No PCBs were detected; however, the detection limit was 167 micrograms per kilograms ($\mu\text{g/kg}$) as the samples were diluted due to matrix effects and the recovery of PCBs were not calculated (Latham, 1996). Gamma-emitting radionuclides were determined to be below PALs. The analytical results for the TCLP SVOC and TCLP metals analyses were not available when requested from the laboratory.

A second surface soil sample, collected from roughly the same spot, was analyzed for pesticides. Analytical results for this sample showed chlordane at 2,020 mg/kg and heptachlor at 294 mg/kg. These concentrations are above the respective PALs.

A third sample collected at roughly the same location, was analyzed for TCLP VOCs, TCLP pesticides, and PCBs. Analytical results for this sample indicated chlordane at 9.3 milligrams per liter (mg/L). Heptachlor and TCLP VOCs were not detected. The PCB results were not available when requested from the laboratory.

Two soil samples were collected from the oil-stained area during the preliminary assessment process. These samples were analyzed for VOCs, SVOCs, TPH (GRO), TPH (DRO), RCRA metals, PCBs, pesticides, herbicides, pH, and gamma-emitting radionuclides. TPH (GRO), herbicides, PCBs, VOCs and SVOCs were not detected above detection limits. TPH (DRO) was detected at up to 4,000 mg/kg. Arsenic was detected at 8.3 mg/kg, which is above the PAL but representative of background concentrations. Barium, chromium, and lead were detected at levels below PALs. The pesticides alpha-chlordane; gamma-chlordane; alpha-BHC; 4,4'-DDT; beta-BHC; and endrin aldehyde were detected at concentrations below PALs. The pH of the soil was reported as 6.7 and 7.7. No gamma-emitting radionuclides were detected above PALs.

During the PA process one soil sample was collected from the green stain in CAS 25-23-19 and analyzed for SVOCs, TPH (DRO), TPH (GRO), RCRA metals, pH, and gamma-emitting radionuclides. No SVOCs, TPH (DRO), or TPH (GRO) were detected above PALs. Arsenic was detected at 4.8 mg/kg and chromium was detected at 880 mg/kg. Both these levels are above PALs, although the arsenic concentration is considered representative of background levels. Barium, lead,

and selenium were detected at levels below PALs. The pH of the soil was reported as 9.4. No gamma-emitting radionuclides were detected above PALs.

Several radiological surveys have been conducted. A 1993 demarcation survey (REEC_o, 1993) identified background radiation levels along the fenceline of the yard and elevated readings at several pieces of equipment. A 1998 survey of the yard (IT, 1998) indicated background beta readings, although a 1991 survey indicated elevated readings around the soil stains and the empty drum on the pallet.

Contaminants of Potential Concern - The COPCs identified for CAS 25-23-01 are shown in [Table A.1-1](#). Critical COPCs include TPH (DRO), PCBs, chlordane, heptachlor, 4,4'-DDT, arsenic, barium, cadmium, and chromium. Noncritical COPCs include TPH (GRO), VOCs, SVOCs, the remaining pesticides, herbicides, the remaining RCRA metals, beryllium, gamma-emitting radionuclides, strontium-90, isotopic uranium, and isotopic plutonium. The COPCs identified for CAS 25-23-19 are also shown in [Table A.1-1](#) and are the same as CAS 25-23-01 with the exception that chromium is a critical COPC. The remaining RCRA metals are noncritical COPCs.

A.1.1.5 CAS 25-99-18, Storage Area

Corrective Action Site 25-99-18 consists of contamination releases from materials stored in a large storage yard. [Figure A.1-6](#) shows a site sketch of the CAS.

Physical Setting and Operational History - CAS 25-99-18 is located on the west side of Lathrop Wells road at the MX Missile Site. The storage yard was used to store heavy equipment and materials used during the MX Program. The site later became the storage yard for materials and scrap prior to sale as salvage. Hazardous materials such as paint, hydraulic fluid, and batteries were found during inspections but were removed prior to the 1996 auction (Center for Land Use Interpretation, 1996; Jacobs, 1986 and 2001; DOE/NV, 1996).

A recent site visit identified remaining material as a 72-ft long concrete trough, three cylindrical concrete plugs ranging from 4 to 15 ft in diameter, one lead brick, and abundant surface and partially buried wood and metal debris. Various scrap objects believed to contain asbestos are also present. There are two small depressions at the site. It is unknown why these depressions are present; however, they may be associated with the removal of hydrocarbon contaminated soil after the salvage

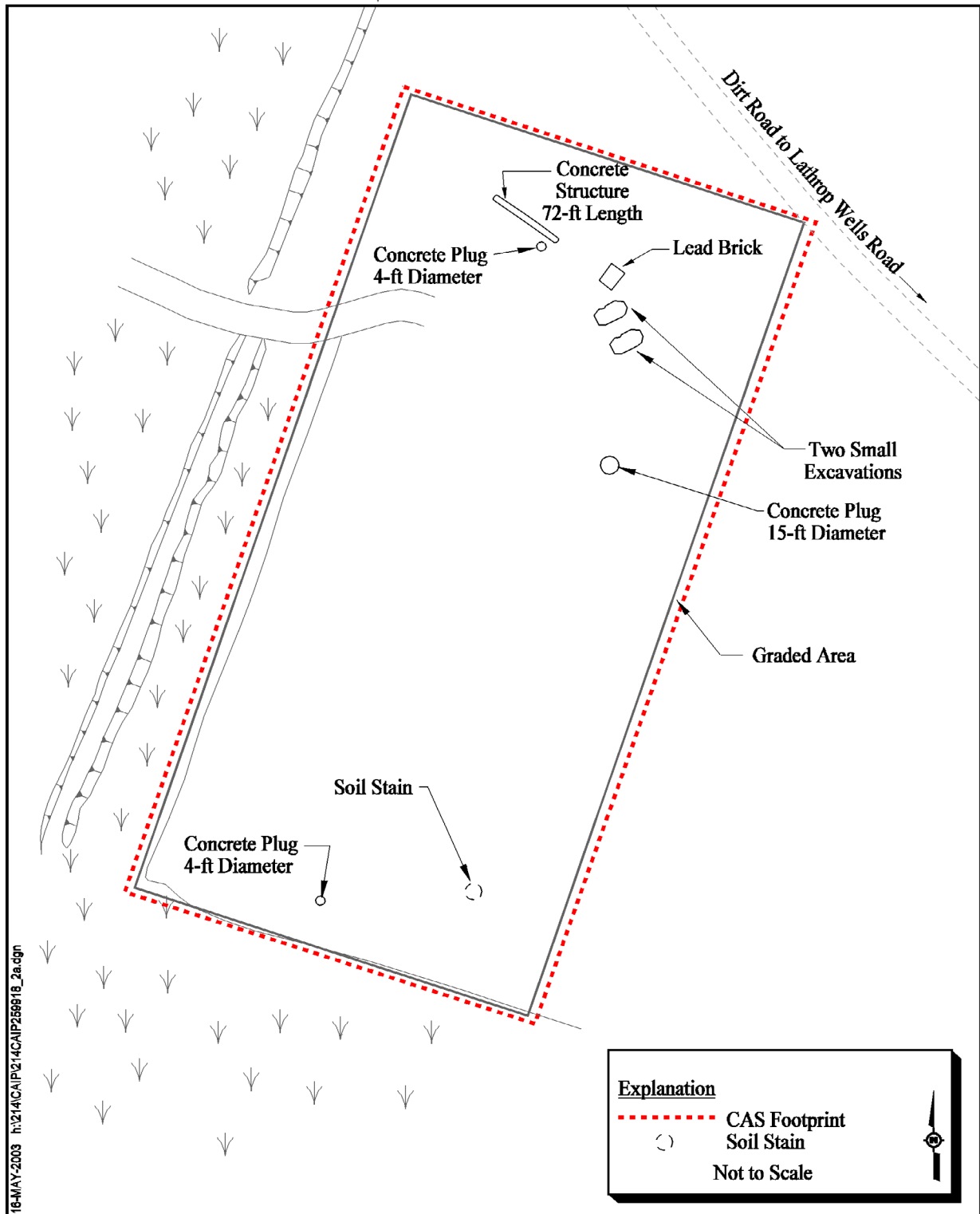


Figure A.1-6
Site Sketch of CAS 25-99-18, Storage Area

sale. A surface soil stain was observed in the southeast portion of the CAS. Two 1-gallon cans were found on site in June 1996 (BN, 2000). There is no information indicating any stains or releases from these cans and the cans are not currently present in the yard.

Sources of Potential Contamination - Sources of potential soil contamination are contaminants released or eroded from solids and/or fluids stored in the yard.

Previous Investigation Results - In June 1996, prior to the August 1996, material salvage auction, inventoried items in the yard were radiologically surveyed and were found to be free of radiation and contamination. The only known analytical results associated with CAS 25-99-18 is a sample from the contents of two 1-gallon cans that were found on site in June 1996 (BN, 2000). These results indicate that the contents of the can contained an unknown hydrocarbon at 940,000 ppm, TPH (GRO) at 30 ppm; and TPH (GRO) at 25,000 ppm. No other previous investigation results have been identified for this CAS.

Contaminants of Potential Concern - The COPCs identified for CAS 25-99-18 are shown in [Table A.1-1](#). The critical COPCs are TPH (DRO) and TPH (GRO). Noncritical COPCs include PCBs, VOCs, SVOCs, RCRA metals, beryllium, and gamma-emitting radionuclides.

A.1.1.6 CASs 25-34-03, 25-34-04, and 25-34-05, Motor Dr/Gr Assembly (Bunker)

Corrective action sites 25-34-03, 25-34-04, and 25-34-05 consist of contamination releases from bunkers and associated cabling. [Figure A.1-7](#), [Figure A.1-8](#), and [Figure A.1-9](#) show site sketches of the three CASs.

Physical Setting and Operational History - The Motor Dr/Gr Assembly Bunkers are all located at ETS-1 in Area 25. These bunkers were used to house the cable spools and motor drives used for manipulating an engine exhaust downhole cover and two radiation shields. The power source for each bunker appears to be electricity. No USTs or generator pads were observed in the vicinity.

Each CAS contains a small concrete structure (14 x 8 x 5 ft) containing the motor drive/gear (Dr/Gr) assembly, associated cable running to ETS-1, and miscellaneous surface debris (e.g., wood, concrete, and metal) in the immediate vicinity. The motor drive/gear assembly in each bunker is oil- and grease-stained, and some portions of the interior bunker floors or walls may also be stained. Small

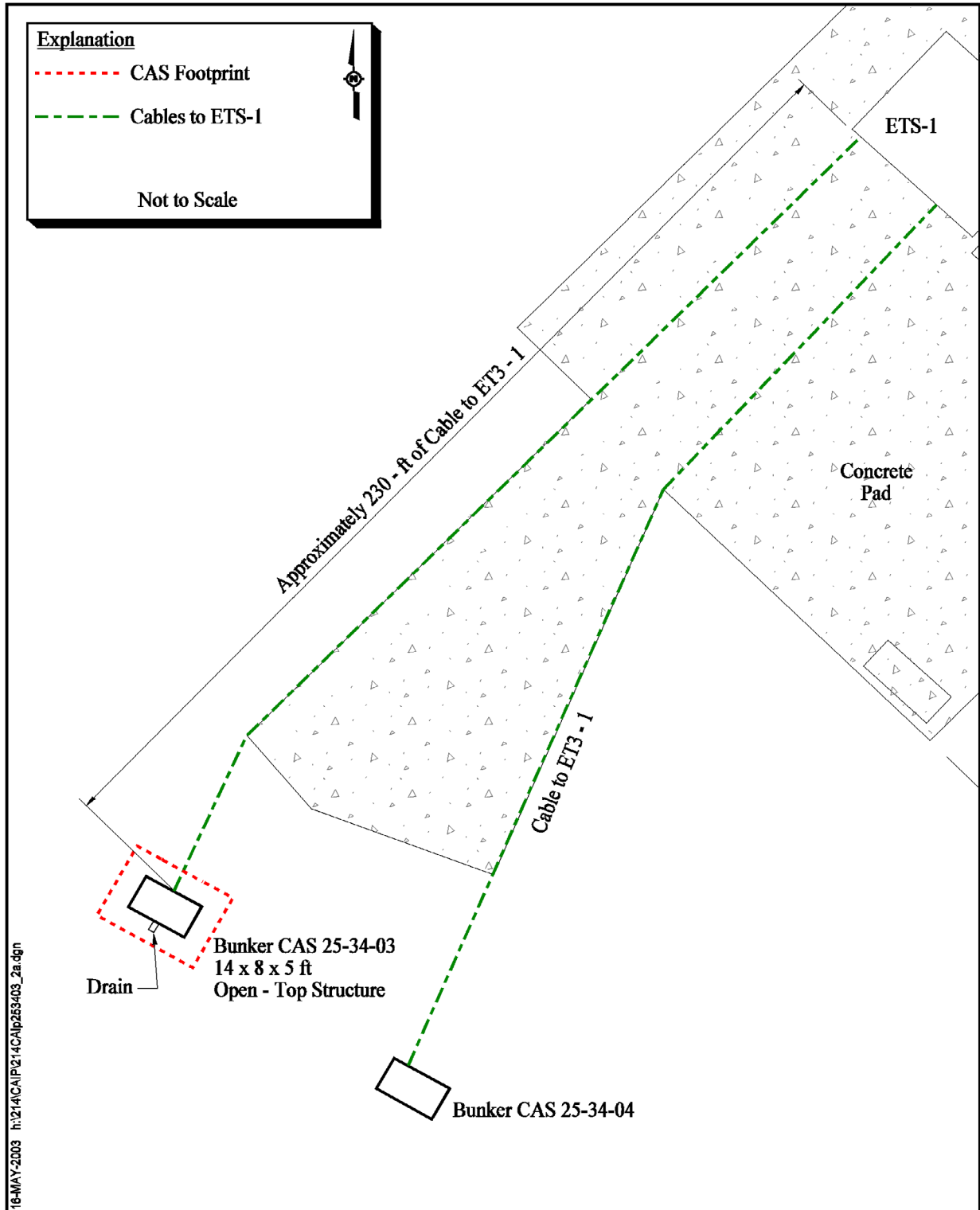


Figure A.1-7
Site Sketch of CAS 25-34-03, Motor Dr/Gr Assembly (Bunker)

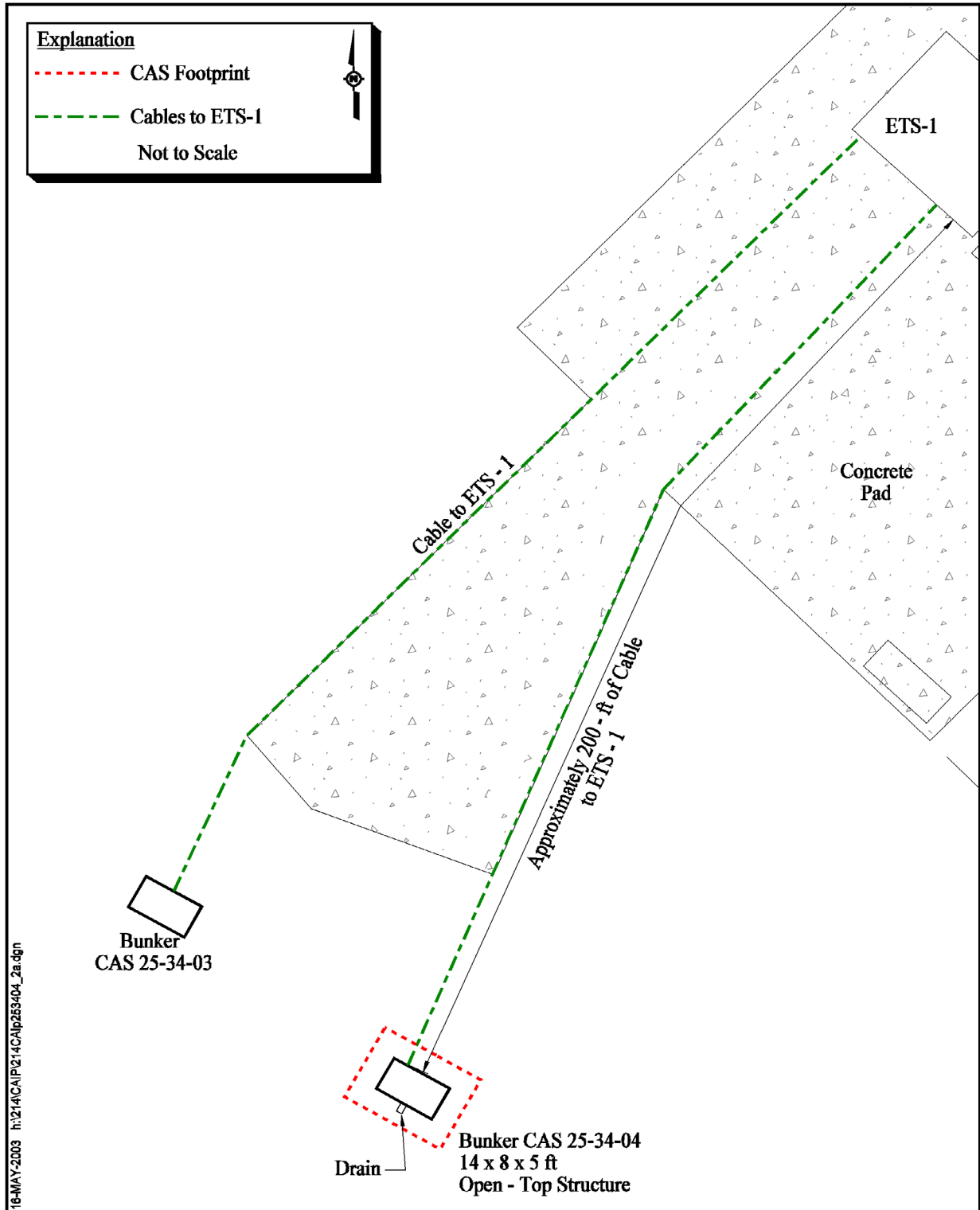


Figure A.1-8
Site Sketch of CAS 25-34-04, Motor Dr/Gr Assembly (Bunker)

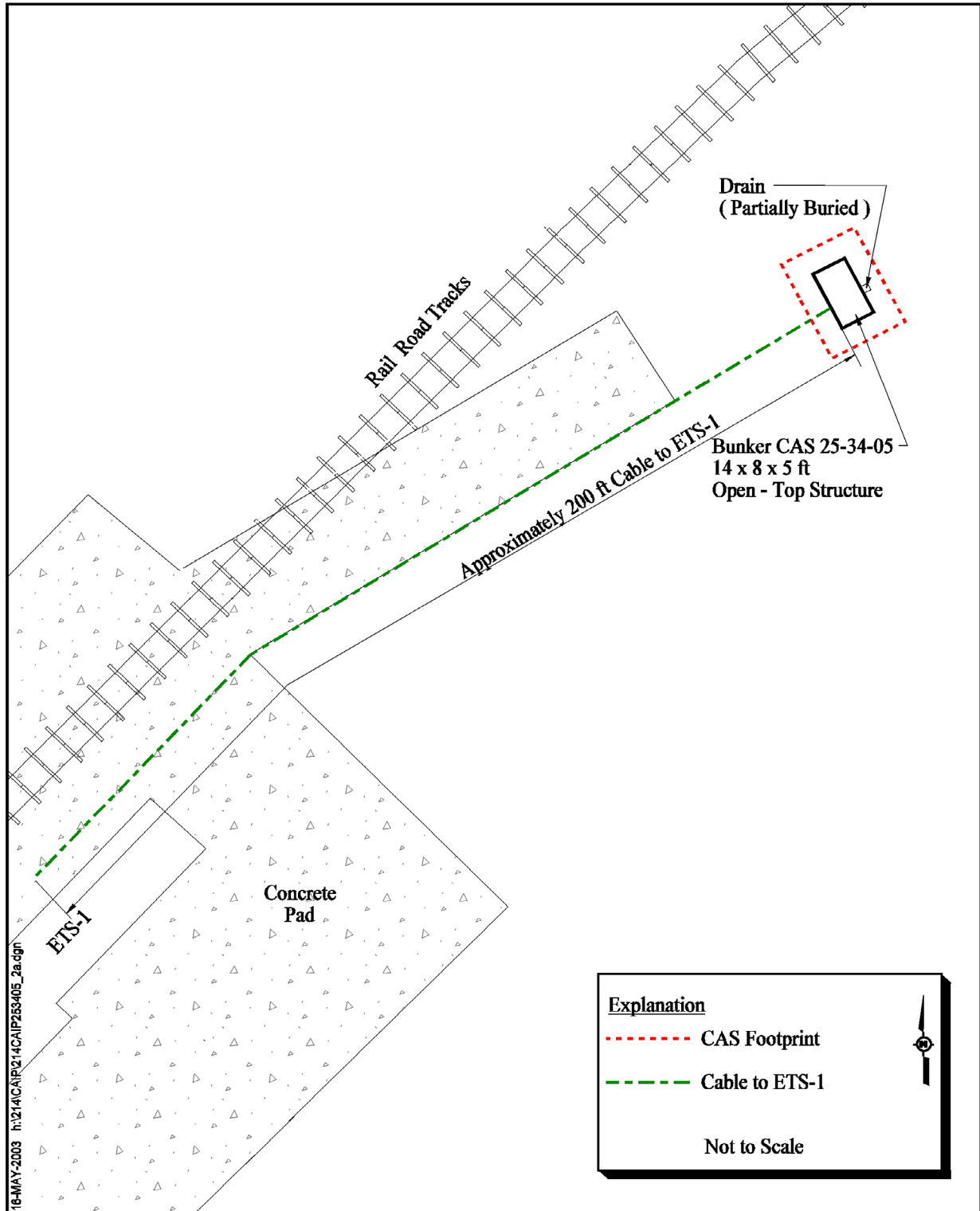


Figure A.1-9
Site Sketch of CAS 25-34-05, Motor Dr/Gr Assembly (Bunker)

piles of dirt and gravel are present in each bunker, believed to have sifted in from openings at the top and side. Any contamination inside the bunkers may have been carried out through a wall drain in each bunker. Any contamination that was transported in this fashion would be expected to be found in the soil beneath the drain outlet, although no soil stains were observed at these locations.

Sources of Potential Contamination - Sources of potential soil contamination are contaminants released or eroded from solids and/or residual amounts of fluids used for maintenance or operation of the drive gears.

Previous Investigation Results - A radiological survey was conducted at the ETS-1 after the last test but it is unknown if the survey included the three bunkers. The survey indicated there was no removable radiological contamination. No previous sampling has been identified.

Contaminants of Potential Concern - The COPCs identified for these CASs are shown in [Table A.1-1](#). There are no critical COPCs. Noncritical COPCs include TPH (DRO), PCBs, VOCs, and gamma-emitting radionuclides.

A.1.2 Step 1 - State the Problem

This step identifies the DQO planning team members, describes the problem that has initiated the CAU 214 investigation, and presents the CSMs.

A.1.2.1 Planning Team Members

The DQO planning team consists of representatives from NDEP; NNSA/NSO; Shaw Environmental, Inc.; and Bechtel Nevada. The primary decision-makers include NDEP and NNSA/NSO representatives. [Table A.1-2](#) lists representatives from each organization in attendance for the February 12, 2003, final DQO meeting.

A.1.2.2 Describe the Problem

Corrective Action Unit 214 is being investigated because uncontrolled releases of unknown substances may have contaminated surrounding media, particularly soil. As a result of these possible releases, hazardous and/or radioactive constituents may be present at CAU 214 at concentrations that could potentially pose a threat to human health and the environment.

**Table A.1-2
Final DQO Meeting Participants
for CAU 214
February 12, 2003**

Participant	Affiliation
Clemens Goewert	NDEP
Sabine Curtis	NNSA/NSO
John Davis	Shaw
Ronald (Brad) Jackson	BN
Kraig Knapp	BN
R. Lynn Kidman	Shaw
Barbara Quinn	SAIC
Georgette Dimit	SAIC

BN - Bechtel Nevada

Shaw - Shaw Environmental, Inc.

NDEP - Nevada Division of Environmental Protection

NNSA/NSO - U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office

SAIC - Science Applications International Corporation

The problem statement for CAU 214 is: “Existing information on the nature and extent of potential contamination is insufficient to evaluate and recommend corrective action alternatives for the CASs in CAU 214.”

A.1.2.3 Develop Conceptual Site Models

Two CSMs have been developed for CAU 214 using information from the physical setting, potential contaminant sources, knowledge from similar sites, release information, historical background information, and physical and chemical properties of the potentially affected media and COPCs. The applicability of the following CSMs to each CAS is summarized in [Table A.1-3](#) and discussed below. [Table A.1-3](#) provides information on additional CSM elements that will be used throughout the remaining steps of the DQO process. If additional elements are identified during the investigation that are outside the scope of the CSMs, the situation will be reviewed and a recommendation will be made as to how to proceed. In such cases, identified decision makers will be notified and given the opportunity to comment on, or concur with, the recommendation.

Table A.1-3
Conceptual Site Models
Description of Elements for Each CAS in CAU 214
(Page 1 of 2)

CSM	Materials and Equipment Storage Yards				Facilities and Associated Soil				
CAS Identifier	25-23-01	25-23-19	25-99-18	11-22-03	25-34-03	25-34-04	25-34-05	05-99-01	25-99-12
CAS Description	Contaminated Materials	Radioactive Material Storage	Storage Area	Drum	Motor Dr/Gr Assembly (Bunker)			Fallout Shelters	Fly Ash Storage
Site Status	Sites are inactive and/or abandoned								
Exposure Scenario	The potential for contamination exposure is limited to industrial and construction workers, and military personnel conducting training. These human receptors may be exposed to COPCs through oral ingestion, inhalation, dermal contact (absorption) of soil and/or debris due to inadvertent disturbance of these materials or irradiation by radioactive materials.								
Affected Media	Surface and shallow subsurface soil; debris such as concrete, steel, and wood								
Sources of Potential Soil Contamination	Leaking containers and surface disposal of discarded equipment and materials				Lubrication and cleaning of equipment; surface disposal of discarded equipment and materials			Asbestos cloth cover over shelter domes	Fly ash migrated through openings in structure
Location of Contamination/Release Point	Surface soil at or near location(s) of stored waste/materials			Surface soil near drums, cable pile	Surface soil below drain holes, surface soil around bunkers			Surface soil near shelters	Surface soil near structure
Transport Mechanisms	Percolation of precipitation through subsurface media serves as the major driving force for migration of contaminants. However, due to the arid environment of the NTS, percolation of precipitation is very small and migration of contaminants has been shown to be very limited. Evaporation potentials significantly exceed available soil moisture from precipitation (i.e., 3 to 10 inches) (USGS, 1995a). Surface water runoff may provide for the transportation of some contaminants within or outside of the footprints of the CASs.								
Preferential Pathways	None anticipated; lateral transport expected to dominate over vertical transport								

Table A.1-3
Conceptual Site Models
Description of Elements for Each CAS in CAU 214
(Page 2 of 2)

CSM	Materials and Equipment Storage Yards				Facilities and Associated Soil				
CAS Identifier	25-23-01	25-23-19	25-99-18	11-22-03	25-34-03	25-34-04	25-34-05	05-99-01	25-99-12
CAS Description	Contaminated Materials	Radioactive Material Storage	Storage Area	Drum	Motor Dr/Gr Assembly (Bunker)			Fallout Shelters	Fly Ash Storage
Lateral and Vertical Extent of Contamination	Unknown. Contamination, if present, is expected to be contiguous to the release points. Concentrations are expected to decrease with distance and depth from the source. Groundwater contamination is not expected. Depth to groundwater in Jackass Flats (Area 25) varies from 710 to 1,160 ft bgs (USGS, 1995b). Depth to groundwater in Frenchman Flat (Area 5) varies from 689 to 719 ft bgs (Trudeau, 1997; USGS/DOE, 2002). Depth to groundwater in Plutonium Valley (Area 11) was reported to be 725 meters above mean sea level in 1975 (DOE/NV, 1999). Surface migration may occur as a result of runoff.								
Amount Released	Unknown				Unknown				
Potentially Released Material	Contaminants released or eroded from solids and/or fluids from stored containers				Contaminants eroded from solids and/or residual amounts of fluids from maintenance and/or storage				
Existing Historical Data on COPCs	- Oil - PCBs - Chlordane - Heptachlor - 4,4'-DDT - Arsenic - Barium - Cadmium - Chromium	- Oil - PCBs - Chlordane - Heptachlor - 4,4'-DDT - Chromium	TPH (DRO) TPH (GRO)	No records available	No records available				Arsenic, high pH

The CSMs that are pertinent to this CAU are:

- Materials and Equipment Storage Yards
- Facilities and Associated Soil

Conceptual site models describe the most probable scenarios for current conditions at specific sites and define the assumptions that are the basis for identifying appropriate sampling strategy and data collection methods. They are the basis for assessing how contaminants could reach receptors both in the present and future by addressing contaminant nature and extent, transport mechanisms and pathways, potential receptors, and potential exposures to those receptors. Accurate CSMs are important as they serve as the basis for all subsequent inputs and decisions throughout the DQO process.

An important element of a CSM is the expected fate and transport of contaminants, which infer how contaminants move through site media and where they can be expected in the environment. The expected fate and transport is based on distinguishing physical and chemical characteristics of the contaminants and media. Contaminant characteristics include solubility, density, and particle size. Media characteristics include permeability, saturation, sorting, chemical composition, and adsorption coefficients. In general, contaminants with low solubility and high density can be expected to be found relatively close to release points. Contaminants with high solubility and low density can be expected to be found further from release points or in area where settling may occur.

Contaminants migrating to regional aquifers is not considered as a significant pathway at CAU 214 based on the low annual average precipitation rates, high potential evapotranspiration, and low mobility of expected COPCs.

Currently, the potential for exposure to contamination at the CAU 214 CASs is limited to industrial and construction workers as well as military personnel conducting training. These human receptors may be exposed to COPCs through oral ingestion, inhalation, dermal contact (absorption) of soil and/or debris due to inadvertent disturbance of these materials or irradiation by radioactive materials. The future land-use scenarios are provided in [Table A.1-4](#).

**Table A.1-4
Future Land-Use Scenarios**

CAS	Zone	Zone Description
25-23-01	Yucca Mountain Site Characterization	
25-23-19		
25-99-18		
25-34-03	Research, Test, and Experiment	This area is designated for small-scale research and development projects and demonstrations; pilot projects; outdoor tests; and experiments for the development, quality assurance, or reliability of material and equipment under controlled conditions. This zone includes compatible defense and nondefense research, development and testing projects and activities.
25-34-04		
25-34-05		
25-99-12		
05-99-01		
11-22-03	Reserved	This area includes land and facilities that provide widespread flexible support for diverse short-term testing and experimentation. This zone is also used for short duration exercises and training such as nuclear emergency response and Federal Radiological Monitoring and Assessment Center training and DoD land-navigation exercises and training.

Source: (DOE/NV, 1998)

A.1.2.3.1 Materials and Equipment Storage Yards CSM

The Materials and Equipment Storage Yards CSM applies to CASs 25-23-01, 25-23-19, 25-99-18, and 11-22-03. Each of these sites is a yard or storage area where materials, equipment, and/or wastes were accumulated and/or stored. The source of potential contamination is contaminants released or eroded from solids and/or fluids from stored materials. Debris such as construction material may exist at each of these CASs. [Figure A.1-10](#) is the CSM as it applies to CASs 25-23-01, 25-23-19, and 11-22-03. [Figure A.1-11](#) is the CSM as it applies to CAS 25-99-18.

A.1.2.3.2 Facilities and Associated Soil CSM

The Facilities and Associated Soil CSM applies to CASs 25-34-03, 25-34-04, 25-34-05, 05-99-01, and 25-99-12. At each of these sites there is a small building or structure, debris in the immediate vicinity, and potential soil contamination which is directly associated with the operation of the facility or the materials contained within the facility. [Figure A.1-12](#) is the CSM as it applies to CASs

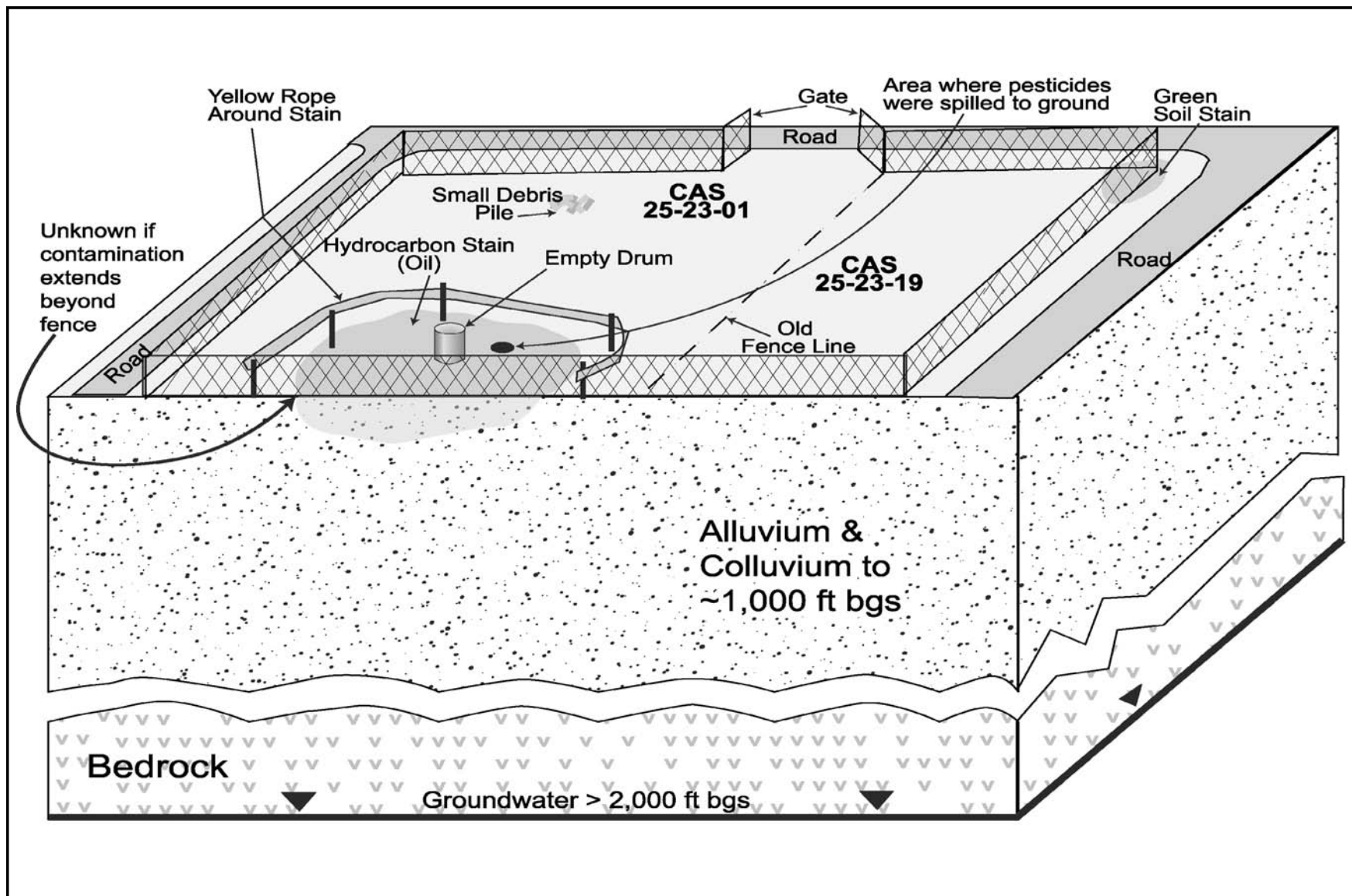


Figure A.1-10
Materials and Equipment Storage Yards CSM for
CAS 25-23-01, CAS 25-23-19, and CAS 11-22-03

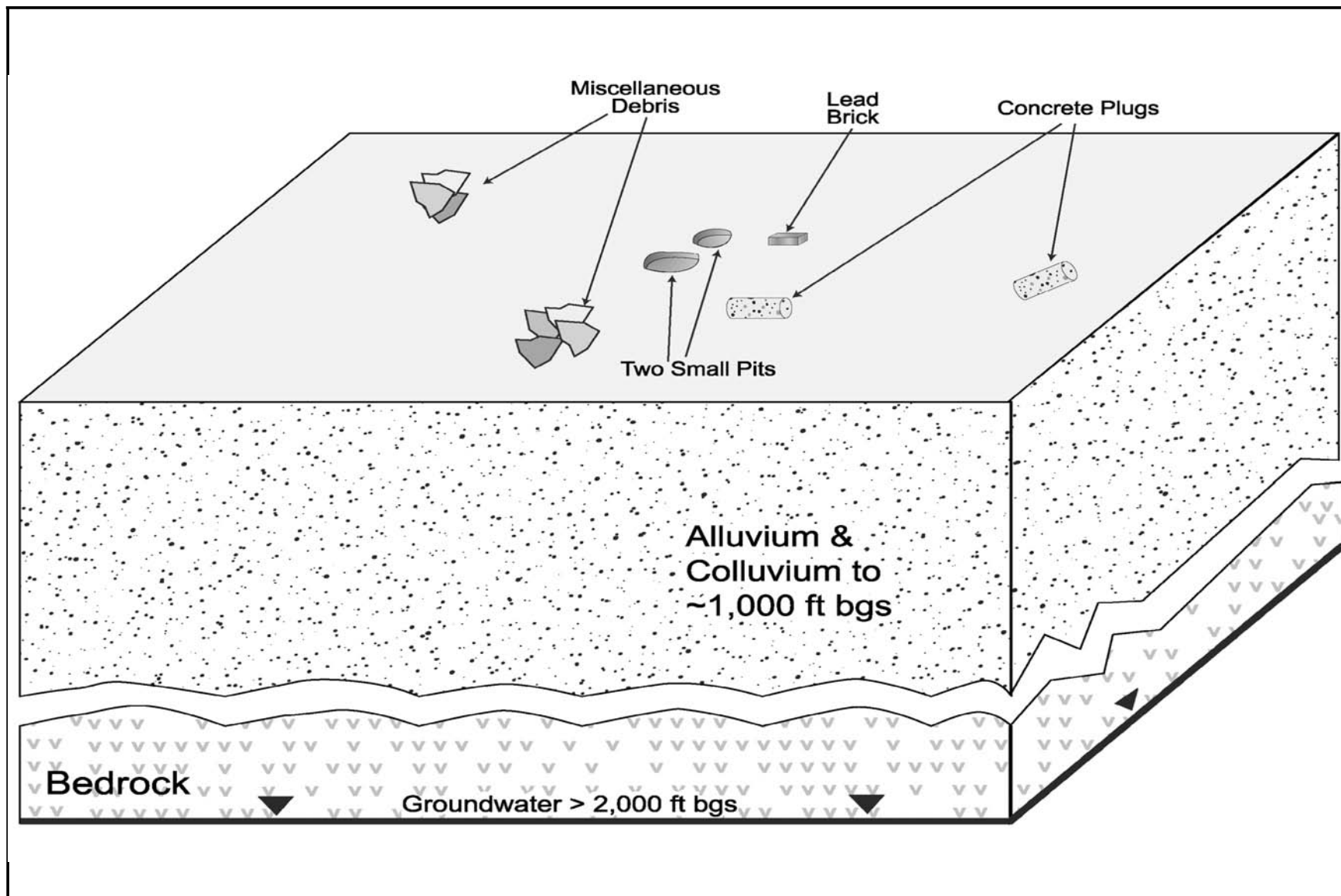


Figure A.1-11
Materials and Equipment Storage Yards CSM for CAS 25-99-18

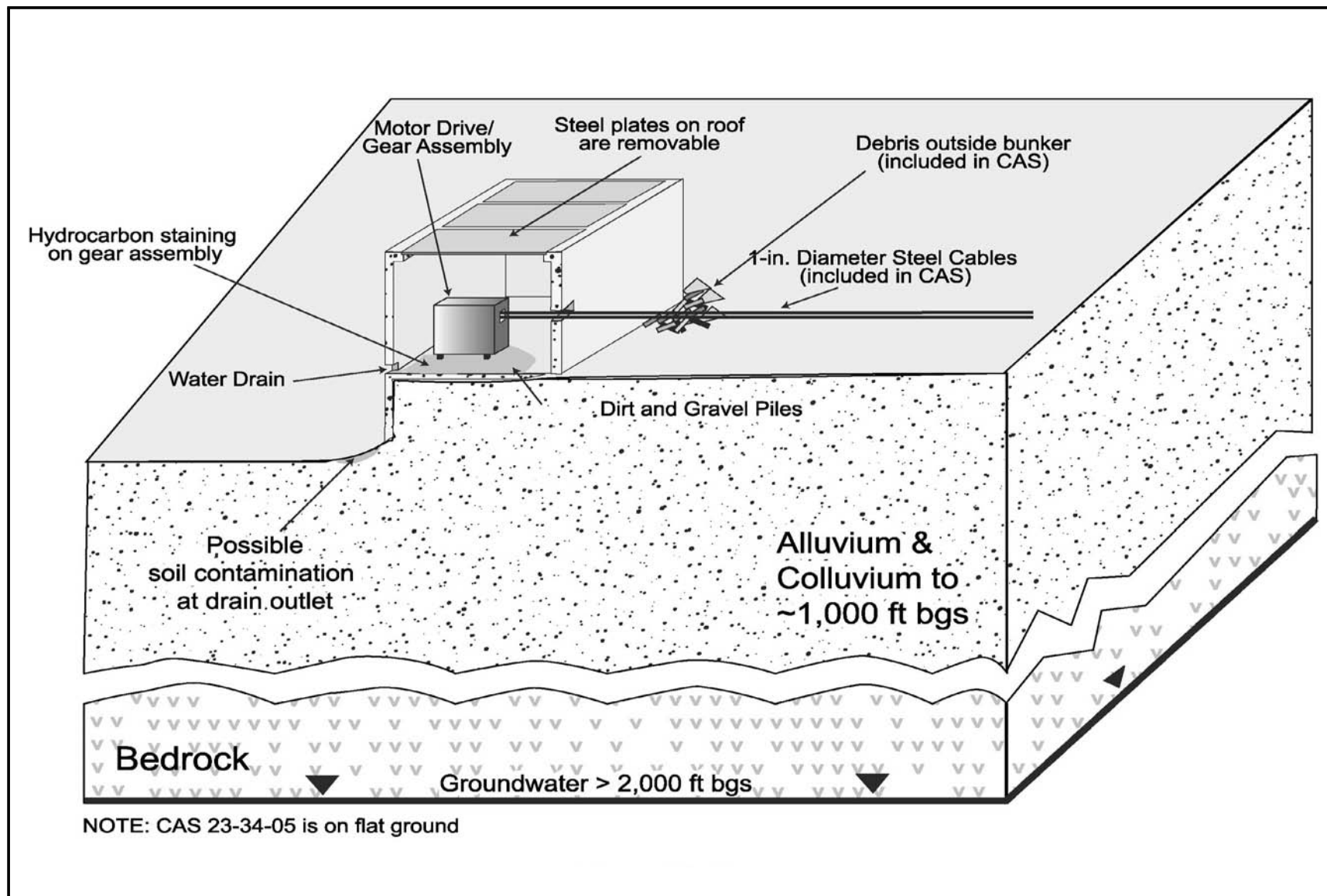


Figure A.1-12
Facilities and Associated Soil CSM for CASs 25-34-03, 25-34-04, and 25-34-05

25-34-03, 25-34-04, and 25-34-03. [Figure A.1-13](#) is the CSM as it applies to CAS 05-99-01, and [Figure A.1-14](#) is the CSM as it applies to CAS 25-99-12.

A.1.3 Step 2 - Identify the Decisions

This step develops a decision statement and defines alternative actions appropriate for Decision I and Decision II.

A.1.3.1 Develop a Decision Statement

The Decision I statement is: “Is a COC present in environmental media within the CAS at a concentration that could pose an unacceptable risk to human health and the environment?”

Any site-related contaminant detected in environmental media at concentrations exceeding the corresponding PALs defined in [Section A.1.4.2](#) will be considered a COC. The presence of a contaminant within a CAS is defined as the analytical detection of a COC. Samples used to resolve Decision I are identified as Decision I samples.

The Decision II statement is: “If a COC is present, is sufficient information available to evaluate appropriate corrective action alternatives?”

Sufficient information is defined as the data needs identified in this DQO Process to include the lateral and vertical extent of all COCs within each CAS. Samples used to resolve Decision II are identified as Decision II samples.

A.1.3.2 Alternative Actions to the Decision

If no COCs are present, further assessment of the CAS is not required. If COCs are present, resolve Decision II.

If the extent of COCs is defined in both the lateral and vertical directions, further assessment of the CAS is not required. If the extent of COCs is not defined, re-evaluate site conditions and collect additional samples.

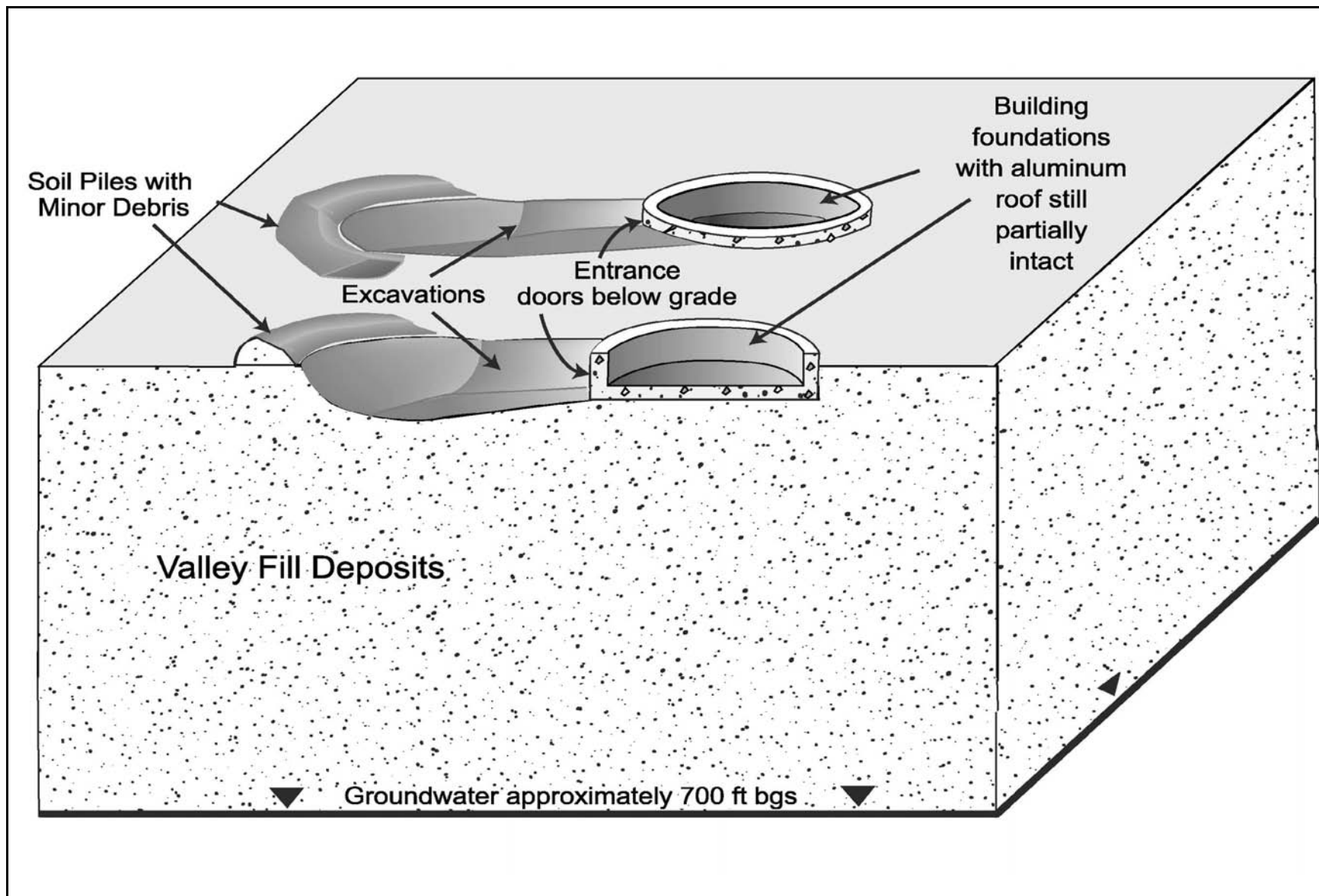


Figure A.1-13
Facilities and Associated Soil CSM for CAS 05-99-01

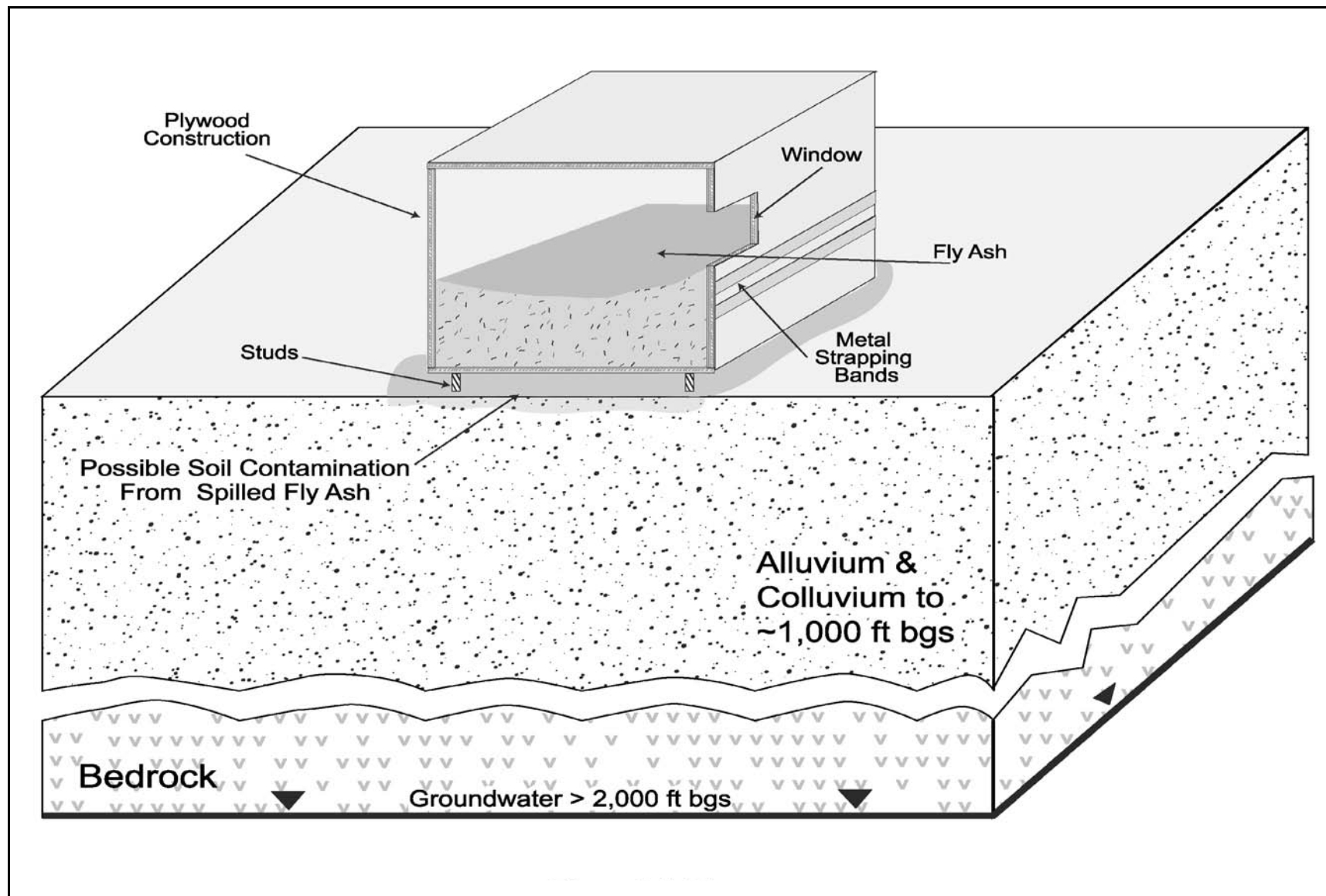


Figure A.1-14
Facilities and Associated Soil CSM for CAS 25-99-12

A.1.4 Step 3 - Identify the Inputs to the Decision

This step identifies the information needed, determines sources for information, determines the basis for establishing the action level, and identifies sampling and analysis methods that will meet the data requirements. To determine if a COC is present, each sample result is compared to the PAL (Section A.1.4.2). If any sample result or population parameter is greater than the PAL, then the CAS is advanced to Decision II for that analyte. This approach does not use a statistical mean/average for comparison to the PAL, but rather a point-by-point comparison to the established screening criteria to identify COCs.

A.1.4.1 Information Needs and Information Sources

In order to determine if a COC is present at a given CAS, sample data must be collected and analyzed following these two criteria: (1) samples must be collected in areas most likely to contain a COC; and (2) the analytical suite selected must be sufficient to detect any COCs present in the samples. Biasing factors to support these criteria include:

- Documented process knowledge on source and location of release
- Visual evidence of discoloration, textural discontinuities, disturbance of native soils, or any other indication of potential contamination
- Presence of debris or equipment
- Presence of hot spots based on the results of radiological surveys
- Field-screening results
- Previous sample or screening results
- Experience and data from investigations of similar sites

Additional random samples will be collected at CAS 25-23-01, CAS 25-23-19, and CAS 25-99-18 storage areas since biasing factors may not be present to adequately indicate contamination associated with materials previously stored in these areas. The content of the drums in CAS 11-22-03 and the fly ash in CAS 25-99-12 will be sampled to determine if the contaminant source material contains COCs. If the source material does not contain COCs, it will be determined that the soil underlying these sources also does not contain COCs.

To determine the extent of a COC, Decision II sample data must be collected and analyzed at locations to bound the lateral and vertical extent of COCs. The data required to satisfy the information needed for Decision II for each COC is a sample result that is below the PAL. Step-out locations will be selected based on the CSM, biasing factors, and existing data. Biasing factors to support these information needs may include the factors previously listed plus Decision I analytical results.

Table A.1-5 lists the information needs, the source of information for each need, and the proposed methods to collect the data needed to resolve Decisions I and II. The last column addresses the QA/QC data type and associated metric. The data type is determined by the intended use of the data in decision making.

Data types are discussed in the following text. All data to be collected are classified into one of three measurement quality categories: quantitative, semiquantitative, and qualitative. The categories for measurement quality are defined in the following sections.

Quantitative Data

Quantitative data results from direct measurement of a characteristic or component within the population of interest. These data require the highest level of QA/QC in collection and measurement systems because the intended use of the data is to resolve primary decision (i.e., rejecting or accepting the null hypothesis) and/or verifying closure standards have been met. Laboratory analytical data are usually assigned as quantitative data.

Semiquantitative Data

Semiquantitative data is generated from a measurement system that indirectly measures the quantity or amount of a characteristic or component of interest. Inferences are drawn about the quantity or amount of a characteristic or component because a correlation has been shown to exist between results from the indirect measurement and the quantitative measurement. The QA/QC requirements on semiquantitative collection and measurement systems are high but may not be as rigorous as a quantitative measurement system. Semiquantitative data contribute to decision making, but are not generally used alone to resolve primary decisions. The data are often used to guide investigations toward quantitative data collection.

Table A.1-5
Information Needs to Resolve Decision I and Decision II
(Page 1 of 2)

Information Need	Information Source	Collection Method	Data Type/Metric
Decision I: Determine if a COC is present.			
Criteria I: Samples must be collected in areas most likely to contain a COC.			
Source and location of release points	Process knowledge compiled during the PA process and previous investigations of similar sites	Information documented in CSM and public reports – no additional data needed	Qualitative – CSM has not been shown to be inaccurate
	Site visit and field observations	Conduct site visits and document field observations	Qualitative - CSM has not been shown to be inaccurate
	Radiological surveys	Review and interpret radiological surveys	Semiquantitative - Sampling based on biasing criteria stipulated in DQO Step 3
	Field screening	Review and interpret field-screening results	Semiquantitative - Sampling based on biasing criteria stipulated in DQO Step 3
	Biased Samples	Selection of locations utilizing technical expertise	Semiquantitative - Sampling based on process knowledge
	Random Samples at CASs 25-23-01, 25-23-19, and 25-99-18	Selection of locations utilizing "Visual Sample Plan" software (PNNL, 2002) set to exclude biased sampling locations	Quantitative - Sampling based on statistical randomization technique
Decision I: Determine if a COC is present.			
Criteria 2: Analyses must be sufficient to detect any COCs in samples.			
Identification of all potential contaminants	Process knowledge compiled during PA process and previous investigations of similar sites	Information documented in CSM and public reports - no additional data needed	Qualitative - CSM has not been shown to be inaccurate
Analytical results	Data packages of biased samples	Appropriate sampling techniques and approved analytical methods will be used	Quantitative - Detection limits will be less than PALs
Decision II: Determine the extent of a COC			
Identification of applicable Decision II contaminants	Data packages of prior samples	Review analytical results to select Decision II COCs	Quantitative – Only COCs previously identified will be analyzed in future sampling events.

Table A.1-5
Information Needs to Resolve Decision I and Decision II
(Page 2 of 2)

Information Need	Information Source	Collection Method	Data Type/Metric
Extent of Contamination	Field observations	Document field observations	Qualitative – CSM has not been shown to be inaccurate.
	Field screening	Conduct field screening with appropriate instrumentation	Semiquantitative – field screening results will be compared to FSLs.
	Decision II analytical results	Appropriate sampling techniques and approved analytical methods will be used to bound COCs	Quantitative - Validated analytical results will be compared to PALs to determine COC extent.

Qualitative Data

Qualitative data identifies or describes the characteristics or components of the population of interest. The QA/QC requirements for qualitative data are the least rigorous on data collection methods and measurement systems. Professional judgement is often used to generate qualitative data. The intended use of the data is for information purposes, to refine conceptual models, and guide investigations rather than resolve primary decisions. This measurement of quality is typically associated with historical information and data where QA/QC may be highly variable or not known.

Metrics provide a tool to determine if the collected data support decision making as intended. Metrics tend to be numerical for quantitative and semiquantitative data, and descriptive for qualitative data.

A.1.4.2 Determine the Basis for the Preliminary Action Levels

Site workers and military personnel may be exposed to contaminants through oral ingestion, inhalation, external (radiological), or dermal contact (absorption) of soil during disturbance of environmental media. Laboratory analytical results for soils will be compared to the following PALs to evaluate if COPCs are present at levels that may pose an unacceptable risk to human health and/or the environment (i.e., COCs):

- EPA *Region IX Risk-Based Preliminary Remediation Goals* for Industrial Soils (EPA, 2002).
- Background concentrations for RCRA metals will be evaluated when natural background exceeds the PAL, as is often the case with arsenic. Background is considered the mean plus

two times the standard deviation of the mean based on data published in *Mineral and Energy Resource Assessment of the Nellis Air Force Range* (NBMG, 1998).

- TPH concentrations above the action level of 100 mg/kg per NAC 445A.2272 (NAC, 2002).
- For COPCs without established PRGs, a protocol similar to EPA Region IX will be used to establish an action level; otherwise, an established PRG from another EPA region may be chosen.
- For radiologically contaminated materials and structures, the total residual surface contamination for unrestricted release of materials and equipment to the general public allowed by DOE Order 5400.5 (DOE, 1993) and as defined in the *NV/YMP Radiological Control Manual* (DOE/NV, 2000).
- The PALs for radiological results are isotope-specific for the radionuclide identified and are defined as the maximum concentration for that isotope found in environmental samples taken from undisturbed background locations in the vicinity of the NTS, as presented in McArthur and Miller (1989), and US Ecology and Atlan-Tech (1991).

A.1.4.3 Potential Sampling Techniques and Appropriate Analytical Methods

The following sections describe potential sampling and other investigative techniques. Additional detail is provided in [Section A.1.8](#).

A.1.4.3.1 Sampling

Samples will be collected by grab sampling, hand auguring, direct push, backhoe excavation, drilling, or other appropriate sampling methods. Sample collection and handling activities will follow standard procedures.

The analytical methods and laboratory requirements (e.g., detection limits, precision, and accuracy) to be followed are provided in [Table 3-4](#) and [Table 3-5](#) of the CAIP. Sample volumes are laboratory- and method-specific and will be determined in accordance with laboratory requirements. Specific analyses required for the disposal of IDW are identified in [Section 5.0](#) of the CAIP. To assure that laboratory analyses are sufficient to detect contamination in soil samples at concentrations exceeding the minimum reporting limit, COPC parameters of interest have been selected.

The VOC and SVOC compounds expected to be analyzed for in Decision I soil samples are listed in [Table A.1-6](#) and [Table A.1-7](#), respectively. The radionuclides, PCBs, and metals compounds

expected to be analyzed for in Decision I soil samples are listed in [Table A.1-8](#). The herbicide and pesticide compounds are listed in [Table A.1-9](#).

Table A.1-6
Analytes Reported from VOC Analysis

1,1,1-Trichloroethane	4-Methyl-2-pentanone	Chloromethane
1,1,1,2-Tetrachloroethane	Acetone	Dibromochloromethane
1,1,2,2-Tetrachloroethane	Benzene	Dibromomethane
1,1,2-Trichloroethane	Bromobenzene	Dichlorodifluoromethane
1,1-Dichloroethane	Bromochloromethane	Ethylbenzene
1,1-Dichloroethene	Bromodichloromethane	Isopropylbenzene
cis-1,2-Dichloroethene	Bromoform	Methyl tertiary butyl ether
trans-1,2-Dichloroethene	Bromomethane	Methylene chloride
1,2-Dichloroethane	Carbon disulfide	N-Butylbenzene
1,2-Dichloropropane	Carbon tetrachloride	N-Propylbenzene
1,2,3-Trichloropropane	Chlorobenzene	sec-Butylbenzene
1,2,4-Trimethylbenzene	Chloroethane	Styrene
1,2-Dibromo-3-chloropropane	Chloroform	tert-Butylbenzene
1,2-Dibromoethane		Tetrachloroethene
1,3,5-Trimethylbenzene		Toluene
cis-1,3-Dichloropropene		Trichloroethene
trans-1,3-Dichloropropene		Trichlorofluoromethane
2-Butanone		Trichlorotrifluoroethane
2-Chlorotoluene		Vinyl acetate
		Vinyl chloride
		Xylene

A.1.4.3.2 Field Screening

Field screening may be conducted for TPH (DRO), VOCs, and radioactivity. Field screening techniques provide semiquantitative data that can be used to guide additional soil sampling activities. Field screening may also be used for health and safety monitoring and to assist in making certain health and safety decisions.

- **TPH (DRO)** - A gas chromatograph or equivalent instrument or method may be used to screen for weathered diesel or other heavier carbon chain compounds. The TPH (DRO) field-screening level (FSL) is established at 75 ppm.
- **VOCs** - A photoionization detector using the headspace method, or equivalent instrument or method may be used to screen for volatiles in soil. The VOC FSL is established as 20 ppm or 2.5 times background, whichever is greater.
- **Radionuclides** - an NE Technology Electra, or equivalent instrument or method may be used to screen for alpha- and beta/gamma-emitting radionuclides. Radionuclide FSLs are CAS-specific and will be calculated prior sample collection, based on background levels.

Table A.1-7
Analytes Reported from SVOC Analysis

1,2,4-Trichlorobenzene	Acenaphthylene	Di-n-butyl Phthalate
1,2-Dichlorobenzene	Aniline	Di-n-octyl Phthalate
1,3-Dichlorobenzene	Anthracene	Fluoranthene
1,4-Dichlorobenzene	Benzo(a)anthracene	Fluorene
2,4,5-Trichlorophenol	Benzo(a)pyrene	Hexachlorobenzene
2,4,6-Trichlorophenol	Benzo(b)fluoranthene	Hexachlorobutadiene
2,4-Dichlorophenol	Benzo(g,h,i)perylene	Hexachlorocyclopentadiene
2,4-Dimethylphenol	Benzo(k)fluoranthene	Hexachloroethane
2,4-Dinitrophenol	Benzoic Acid	Indeno(1,2,3-cd)pyrene
2,4-Dinitrotoluene	Benzyl Alcohol	Isophorone
2,6-Dinitrotoluene	Bis(2-chloroethoxy) methane	Naphthalene
2-Chloronaphthalene	Bis(2-chloroethyl)ether	Nitrobenzene
2-Chlorophenol	Bis(2-chloroisopropyl)ether	N-Nitroso-di-n-propylamine
2-Methylphenol	Bis(2-ethylhexyl) phthalate	N-Nitrosodimethylamine
2-Nitroaniline	Butyl benzyl phthalate	N-Nitrosodiphenylamine
3,3'-Dichlorobenzidine	Carbazole	Pentachlorophenol
4-Bromophenyl phenyl ether	Chrysene	Phenanthrene
4-Chloroaniline	Dibenzo(a,h)anthracene	Phenol
4-Methylphenol	Dibenzofuran	Pyrene
4-Nitrophenol	Diethyl Phthalate	Pyridine
Acenaphthene	Dimethyl Phthalate	

Table A.1-8
Analytes Reported from Radionuclides, PCB, and Metals Analyses

Radionuclides	PCB		Metals	
Gamma-emitting radionuclides	Aroclor-1016	Aroclor-1248	arsenic	lead
Strontium-90	Aroclor-1221	Aroclor-1254	barium	mercury
Isotopic uranium	Aroclor-1232	Aroclor-1260	beryllium	selenium
Isotopic plutonium	Aroclor-1242		cadmium	silver
			chromium	

A.1.4.3.3 Radiological Surveys

Radiological surveys will be conducted at appropriate CASs to determine the presence of surficial gamma and high energy beta-emitting radiological contaminants. Walkover surveys will be performed over approximately 100 percent of the CAS boundaries, as permitted by terrain and field conditions. A plastic scintillator will be used as the instrument for the surveys. Additional equipment and software used in the collection and processing of radiological data include a Trimble™ global positioning system receiver, laptop computer used to log and process the data, and Surfer™ to plot the data.

Table A.1-9
Analytes Reported from Herbicides and Pesticides Analyses

Herbicides	Pesticides	
Dalapon	alpha-BHC	Dieldrin
Dicamba	gamma-BHC (Lindane)	Endrine
MCPP	Heptachlor	4,4'-DDD
MCPA	Aldrin	Endosulfan II
Dichloroprop	beta-BHC	4,4'-DDT
2,4-D	delta-BHC	Endrin aldehyde
Silvex	Heptachlor Epoxide	Methoxychlor
2,4,5-T	Endosulfan I	Endosulfan sulfate
2,4-DB	gamma-chlordane	Endrin ketone
Dinoseb	alpha-chlordane	Toxaphene
	4,4'-DDE	

A.1.4.3.4 Radiological Scanning and Swipe Sampling

Radiological scanning and swipe sampling may be conducted on equipment and/or materials. A handheld detector such as an NE Technologies Electra or equivalent instrument, will be used to scan the item of interest. If contamination is indicated, swipe samples will be collected and counted. This technique identifies radiological conditions of the equipment and/or materials and determines their subsequent release status.

A.1.5 Step 4, Define the Boundaries of the Study

The purpose of this step is to define the target population of interest, specify the spatial and temporal features of the population that are pertinent for decision making, determine practical constraints on data collection, and define the scale of decision making relevant to target populations for Decision I.

A.1.5.1 Define the Target Population

Decision I target populations represent locations within the CAS that contain COCs, if present. Decision II target populations are locations adjacent to the COC plume where COC concentrations are less than PALs.

A.1.5.2 Identify the Spatial and Temporal Boundaries

Spatial boundaries are the maximum lateral and vertical extent of expected contamination at each CAS, as shown in [Table A.1-10](#). Contamination found beyond these boundaries may indicate a flaw in the CSM and would require re-evaluation of the CSM before the investigation could continue.

Each CAS is considered geographically independent and intrusive activities are not intended to extend into the boundaries of neighboring CASs. The exception is that CASs 25-23-01 and 25-23-19 may be treated as a single investigative unit.

Table A.1-10
Spatial Boundaries of CAU 214 CASs

Corrective Action Site	Spatial Boundaries
05-99-01, Fallout Shelters	The footprint of each fallout shelter and excavated area plus a 75-ft lateral buffer; 20 ft bgs vertically.
11-22-03, Drum	The footprint of each drum and the cable piles, plus a 30-ft lateral buffer; 20 ft bgs vertically.
25-99-12, Fly Ash Storage	The footprint of the storage structure plus a 50-ft lateral buffer; 20 ft bgs vertically.
25-23-01, Contaminated Materials	Fenceline of yard plus a 75-ft lateral buffer; 20 ft bgs vertically.
25-23-19, Radioactive Material Area	
25-99-18, Storage Area	The graded area (387 ft by 816 ft) plus a 75-ft lateral buffer; 20 ft bgs vertically.
25-34-03, Motor Dr/Gr Assembly (Bunker)	The footprint of each bunker plus a 25-ft lateral buffer; 20 ft bgs vertically. Also, the steel cable between the bunker structures and ETS-1.
25-34-04, Motor Dr/Gr Assembly (Bunker)	
25-34-05, Motor Dr/Gr Assembly (Bunker)	

Temporal boundaries are those time constraints set up by weather conditions and project schedules. Significant temporal constraints due to weather conditions are not expected. Moist weather may place constraints on sampling and field screening contaminated soils because of the attenuating effect of moisture in samples (e.g., alpha-emitting radionuclides). There are no time constraints on collecting samples as environmental conditions at all sites will not significantly change in the near future and conditions would have stabilized over the years since the site was last used.

A.1.5.3 Identify Practical Constraints

Other NTS activities may affect the ability to characterize this site. Underground utilities may exist at the site, which may limit intrusive sampling locations. Other practical constraints include rough terrain and access restrictions. Access restrictions include scheduling conflicts on the NTS with other entities, areas posted as contamination areas requiring appropriate work controls, physical barriers (e.g., fences, buildings, steep slopes), and areas requiring authorized access.

A.1.5.4 Define the Scale of Decision Making

The scale of decision making in Decision I is defined as the CAS. The scale of decision making for Decision II is defined as a contiguous area contaminated with any COC originating from the CAS.

A.1.6 Step 5 - Develop a Decision Rule

This step integrates outputs from the previous step with the inputs developed in this step into a decision rule (“If..., then...” statement. This rule describes the conditions under which possible alternative actions would be chosen.

A.1.6.1 Specify the Population Parameter

The population parameter for Decision I data is the maximum observed concentration of each COC within the target population. The population parameter for Decision II data will be the observed concentration of each unbounded COC in any sample.

A.1.6.2 Choose an Action Level

Preliminary action levels are defined in [Section A.1.4.2](#).

A.1.6.3 Measurement and Analysis Methods

The measurement and analysis methods in the Industrial Sites QAPP (NNSA/NV, 2002) are capable of achieving the expected range of values. The detection limit of the measurement method to be used is less than the PAL for each COPC, unless specified otherwise in the CAIP. See [Section A.1.4.3](#) for additional details.

A.1.6.4 Decision Rule

The decision rule for Decision I is:

If the population parameter of any COPC in a target population exceeds the PAL for that COPC for Decision I, then that COPC is identified as a COC, and Decision II samples will be collected. If biasing factors (e.g., staining) are present, then Decision II sampling may be conducted prior to confirming contamination through analytical results. If COPC concentrations are less than the corresponding PAL, then the decision will be no further action.

The decision rule for Decision II is:

If the observed concentration of any COC in a Decision II sample exceeds the PALs, then additional samples will be collected to complete the Decision II evaluation. If all observed COC population parameters are less than PALs, then the decision will be that the extent of contamination has been defined in the lateral and/or vertical direction.

If contamination is inconsistent with the CSM or extends beyond the spatial boundaries identified in [Table A.1-10](#), then work will be suspended and the investigation strategy will be reevaluated. If contamination is consistent with the CSM and is within spatial boundaries, then the decision will be to continue sampling to define the extent.

A.1.7 Step 6 - Specify the Tolerable Limits on Decision Errors

The approach for making DQO decisions is based on the results of individual samples; therefore, statistical analysis is not appropriate. Only validated analytical results (quantitative data) will be used to determine if COCs are present (Decision I), or the extent of a COC (Decision II), unless otherwise stated. The baseline condition (i.e., null hypothesis) and alternative condition for Decision I are:

- Baseline condition – A COC is present.
- Alternative condition – A COC is not present.

The baseline condition (i.e., null hypothesis) and alternative condition for Decision II are as follows:

- Baseline condition - The extent of a COC has not been defined.
- Alternative condition – The extent of a COC has been defined.

A.1.7.1 False Rejection Decision Error

The false rejection (alpha) decision error would mean deciding that a COC is not present when it actually is (Decision I), or deciding that the extent of a COC has been defined when it has not (Decision II). In both cases the consequence is the increased risk to human health and environment.

For Decision I, a false rejection decision error (where consequences are more severe) is controlled by meeting these criteria:

- Having a high degree of confidence that the sample locations selected will identify COCs if present anywhere within the CAS.
- Having a high degree of confidence that analyses conducted will be sufficient to detect any COCs present in the samples.

For Decision II, this error is reduced by:

- Having a high degree of confidence that the sample locations selected will identify the extent of COCs.
- Having a high degree of confidence that analyses conducted will be sufficient to detect any COCs present in the samples.
- Having a high degree of confidence that the data set is of sufficient quality and completeness.

To satisfy the first criterion, Decision I samples will be collected in areas most likely to be contaminated by COCs (supplemented by random samples where appropriate). Decision II data collection will sample areas that represent the lateral and vertical extent of contamination. The following characteristics are considered for both decisions to accomplish the first criterion:

- Source and location of release
- Chemical nature and fate properties
- Physical transport pathways and properties
- Hydrologic drivers

These characteristics were considered during the development of the CSMs and selection of sampling locations. The biasing factors listed in [Section A.1.4.1](#) will be used to further ensure that these criteria are met.

To satisfy the second criterion, all Decision I samples will be analyzed for the chemical and radiological parameters listed in [Section A.1.4.3](#). Decision II samples will be analyzed for those chemical and radiological parameters that identified unbounded COCs.

To satisfy the third criterion, the entire data set, as well as individual sample results, will be assessed against the DQIs of precision, accuracy, comparability, completeness, and representativeness defined in the Industrial Sites QAPP (NNSA/NV, 2002). The goal for the DQI of completeness is that 100 percent of the critical COPC results are valid for every sample. In addition, sensitivity has been

included as a DQI for laboratory analyses. Site-specific DQIs are discussed in more detail in [Section 6.0](#) of the CAIP. Strict adherence to established procedures and QA/QC protocol protects against false negatives.

A.1.7.2 False Acceptance Decision Error

The false acceptance (beta) decision error would mean deciding that a COC is present when it is not, or a COC is unbounded when it is not, resulting in increased costs for unnecessary sampling and analysis.

The false acceptance decision error is controlled by protecting against false positive analytical results. False positive results are typically attributed to laboratory and/or sampling/handling errors. Quality assurance/quality control samples such as field blanks, trip blanks, laboratory control samples, and method blanks are used to determine if a false positive analytical result may have occurred. Other measures include proper decontamination of sampling equipment and using certified clean sample containers to avoid cross contamination.

A.1.7.3 Quality Assurance/Quality Control

Radiological survey instruments and field-screening equipment will be calibrated and checked in accordance with the manufacturer's instructions and approved procedures.

Quality control samples will be collected as required by established procedures. The required QC samples include the following, but additional QC samples may be submitted based on site conditions.

- Trip blanks (1 per sample cooler containing VOC environmental samples)
- Equipment blanks (1 per sampling event for each type of decontamination procedure)
- Source blanks (1 per source lot per sampling event)
- Field duplicates (minimum of 1 per matrix per 20 environmental samples)
- Field blanks (minimum of 1 per 20 environmental samples, to best exemplify field conditions)

- Laboratory QC samples (minimum of 1 per matrix per 20 environmental samples)
- Matrix spike/matrix spike duplicate (1 per 20 environmental samples or 1 per CAS per matrix, if less than 20 collected, not required for all radionuclide measurements)

A.1.8 Step 7 - Optimize the Design for Obtaining Data

Intrusive sampling for field-screening and laboratory analysis will be the primary investigative technique at CAU 214. Grab sampling, hand auguring, drilling, direct-push, excavation, or other appropriate sample collection techniques will be used to collect samples. A biased sampling strategy will be used for Decision I to target areas with the highest potential for contamination, if it is present anywhere in the CAS. Sample locations will be determined based on the biasing factors listed in [Section A.1.4.1](#), and are discussed in the following subsections. If biasing factors are present in soils below locations where Decision I samples were removed, subsurface Decision I soil samples will also be collected by hand auguring, backhoe excavation, direct-push, or drilling techniques, as appropriate. Decision I subsurface soil samples will be collected at depth intervals selected by the Site Supervisor based on biasing factors to a depth where the biasing factors are no longer present.

Additionally, supplemental random samples will be collected within the storage areas of CAS 25-23-01, CAS 25-23-19, and CAS 25-99-18. The Site Supervisor has the discretion to modify the sample locations, but only if the modified locations meet the decision needs and criteria stipulated in [Section A.1.4](#) for the biased sample and the criteria stipulated in [Appendix A.3](#) for the randomized samples.

Step-out (Decision II) sampling locations at each CAS will be selected based on the outer boundary sample locations where COCs were detected, the CSM, and other biasing factors listed in [Section A.1.4.1](#). In general, sample locations will be arranged in a triangular pattern around the Decision I location at distances based on site conditions, process knowledge, and biasing factors. If COCs extend beyond the initial step-outs, Decision II samples will be collected from incremental step-outs. Initial step-outs will be at least as deep as the vertical extent of contamination defined at the Decision I location and the depth of the incremental step-outs will be based on the deepest contamination observed at all locations. A minimum of one clean sample (i.e., COCs less than PALs) will be collected from each step-out to define vertical extent of contamination. The number, location, and spacing of step-outs may be modified by the Site Supervisor, as warranted by site conditions.

The following sections discuss CAS-specific investigation activities, including proposed sample locations.

A.1.8.1 CAS 05-99-01, *Fallout Shelters*

Prior to Decision I sample collection, miscellaneous surface debris will be collected and staged for waste disposal, as needed. Tumbleweeds will be removed from the excavation at each fallout shelter. A minimum of two soil samples will be collected from each shelter at locations based on biasing factors.

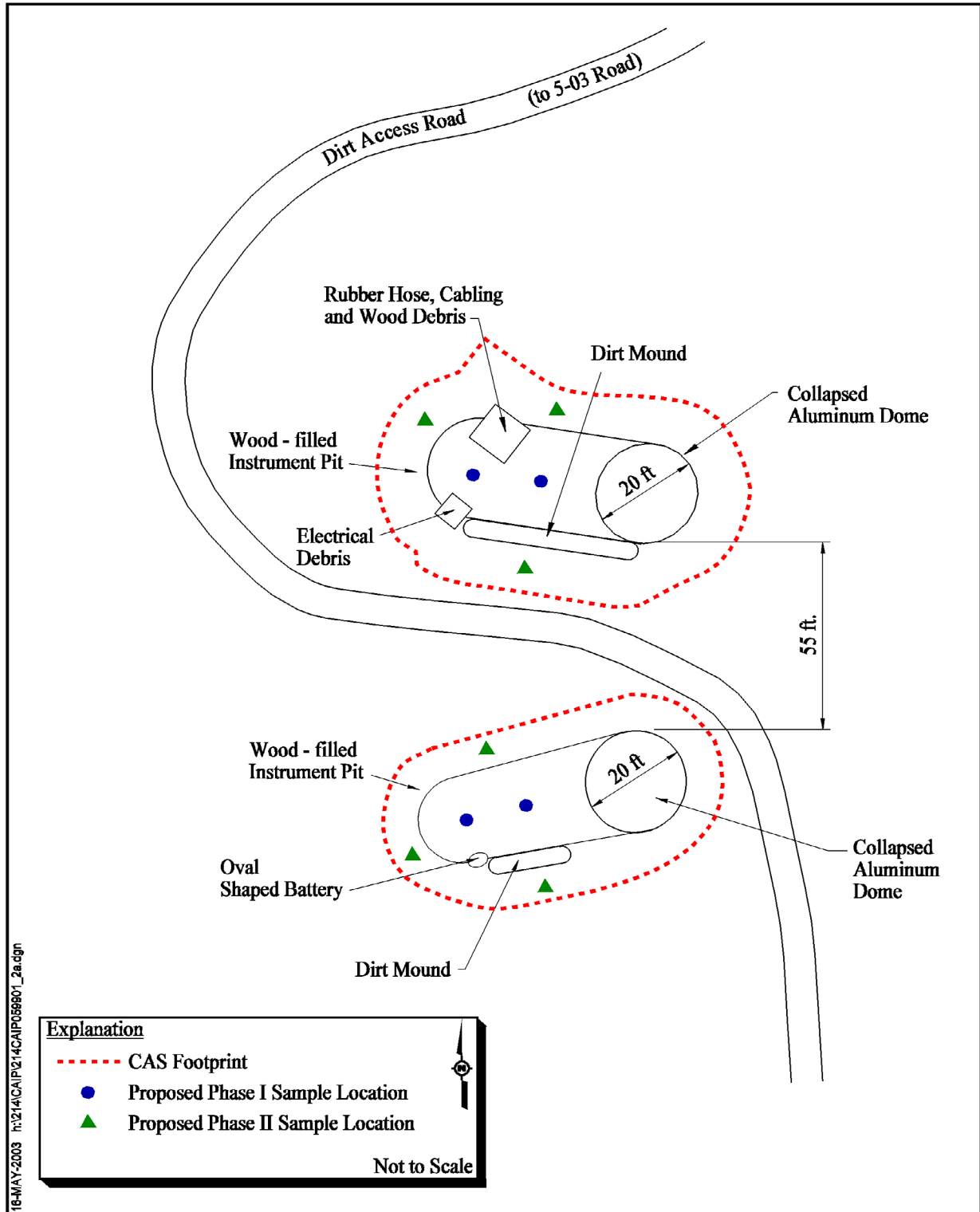
Decision II step-out samples may be collected, as described in the introduction to [Section A.1.8](#). The Site Supervisor will determine if Decision II sampling is appropriate based on biasing factors, primarily field screening of Decision I samples. Proposed sampling locations at CAS 05-99-01 are shown in [Figure A.1-15](#).

As discussed in [Section A.1.1](#), radiological soil contamination at this site originating from nuclear testing is specifically excluded from this investigation. If such contamination exists, it will be addressed by the Soils Program.

A.1.8.2 CAS 11-22-03, *Drum*

Each drum will be visually inspected for rust, leaks, spills, or other signs of contamination release(s). The material in the drums and the cable piles will be sampled using appropriate methodology (if sufficient nature and quantity of media is present) for waste characterization. If source material (cable pile and drum contents) contamination concentrations are less than PALs, it will not be necessary to sample the underlying soil. Otherwise, the drums and the cable piles will be moved and staged for waste disposal prior to sampling the underlying soil. If necessary, a minimum of one soil sample will be collected from the footprint of each drum, and a minimum of two soil samples will be collected from the footprint of the cable piles.

Decision II step-out samples may be collected, as described in the introduction to [Section A.1.8](#). The Site Supervisor will determine if Decision II sampling is appropriate based on biasing factors, primarily field screening of Decision I samples. Proposed sampling locations at CAS 11-22-03 are shown in [Figure A.1-16](#).



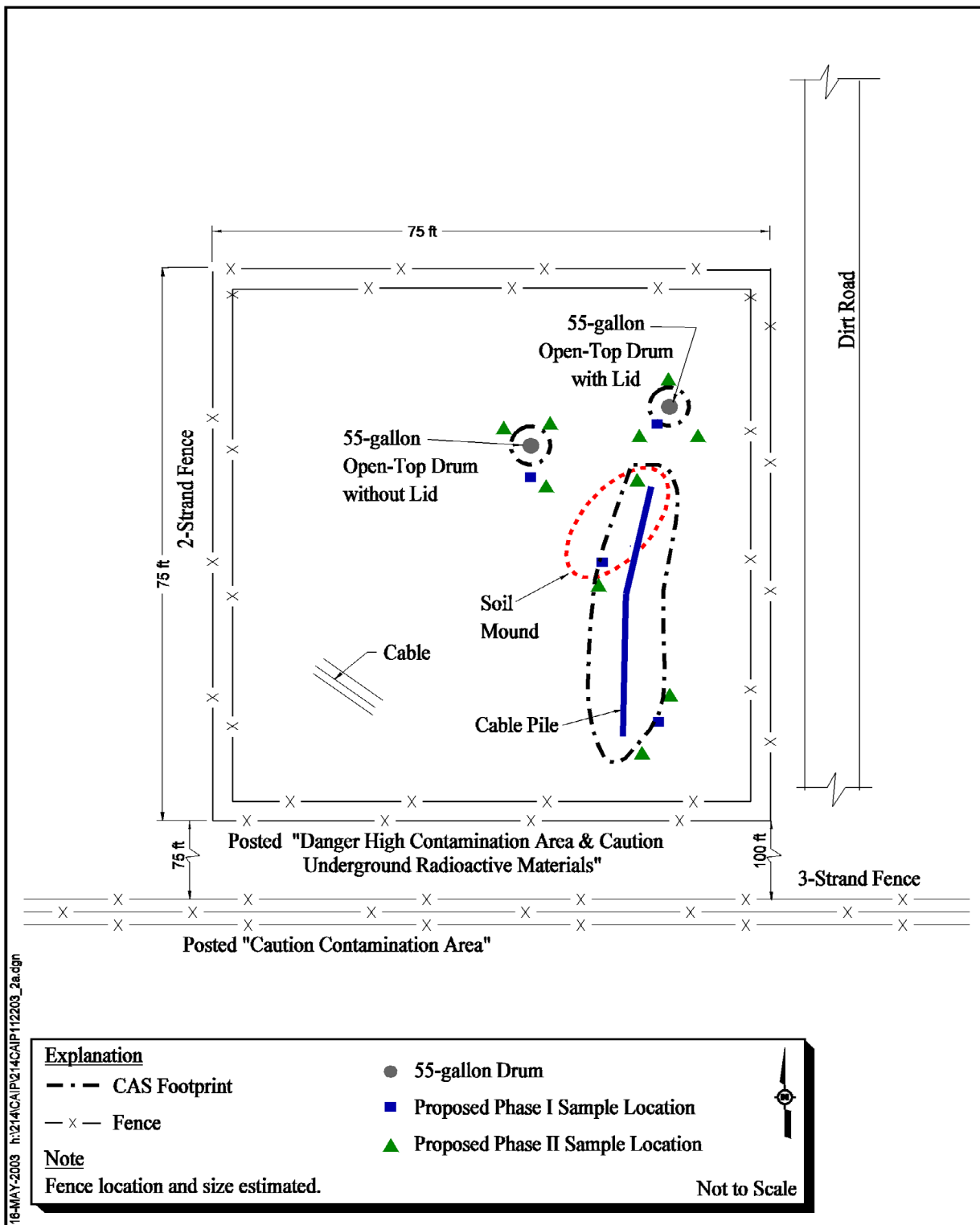


Figure A.1-16
Proposed Sampling Locations at CAS 11-22-03, Drum

As discussed in [Section A.1.1](#), radiological soil contamination at this site originating from nuclear testing is specifically excluded from this investigation. If such contamination exists, it will be addressed by the Soils Program.

A.1.8.3 CAS 25-99-12, Fly Ash Storage

The material in the storage structure will be sampled using appropriate methodology for waste characterization. If source material (fly ash) contamination concentrations are less than PALs, it will not be necessary to sample the underlying soil. Otherwise, the storage structure and fly ash will be moved and staged for waste disposal prior to sampling the underlying soil. If necessary, a minimum of two soil samples will be collected from the footprint of the storage structure.

Decision II step-out samples may be collected, as described in the introduction to [Section A.1.8](#). The Site Supervisor will determine if Decision II sampling is appropriate based on biasing factors, primarily field screening of Decision I samples. Proposed sampling locations at CAS 25-99-12 are shown in [Figure A.1-17](#).

A.1.8.4 CAS 25-23-01, Contaminated Materials and CAS 25-23-19, Radioactive Materials Storage

A walkover radiological survey will be performed at accessible portions of the storage yard and will be conducted as described in [Section A.1.4.3.3](#). A minimum of one soil sample will be collected from any area, hotspot, or group of hotspots with a localized gamma emission rate statistically exceeding background as determined by the post-processed contour plot of the radiological survey data.

Transects of the yard, spaced no more than 40 ft apart, will be walked to ensure that the whole yard is examined for potential biasing factors. If biasing factors reveal soil stains or other indications of contamination (other than the soil stains discussed below), the location will be marked with a pinflag or other appropriate methods, and a minimum of one soil sample will be collected per contamination feature or group of features.

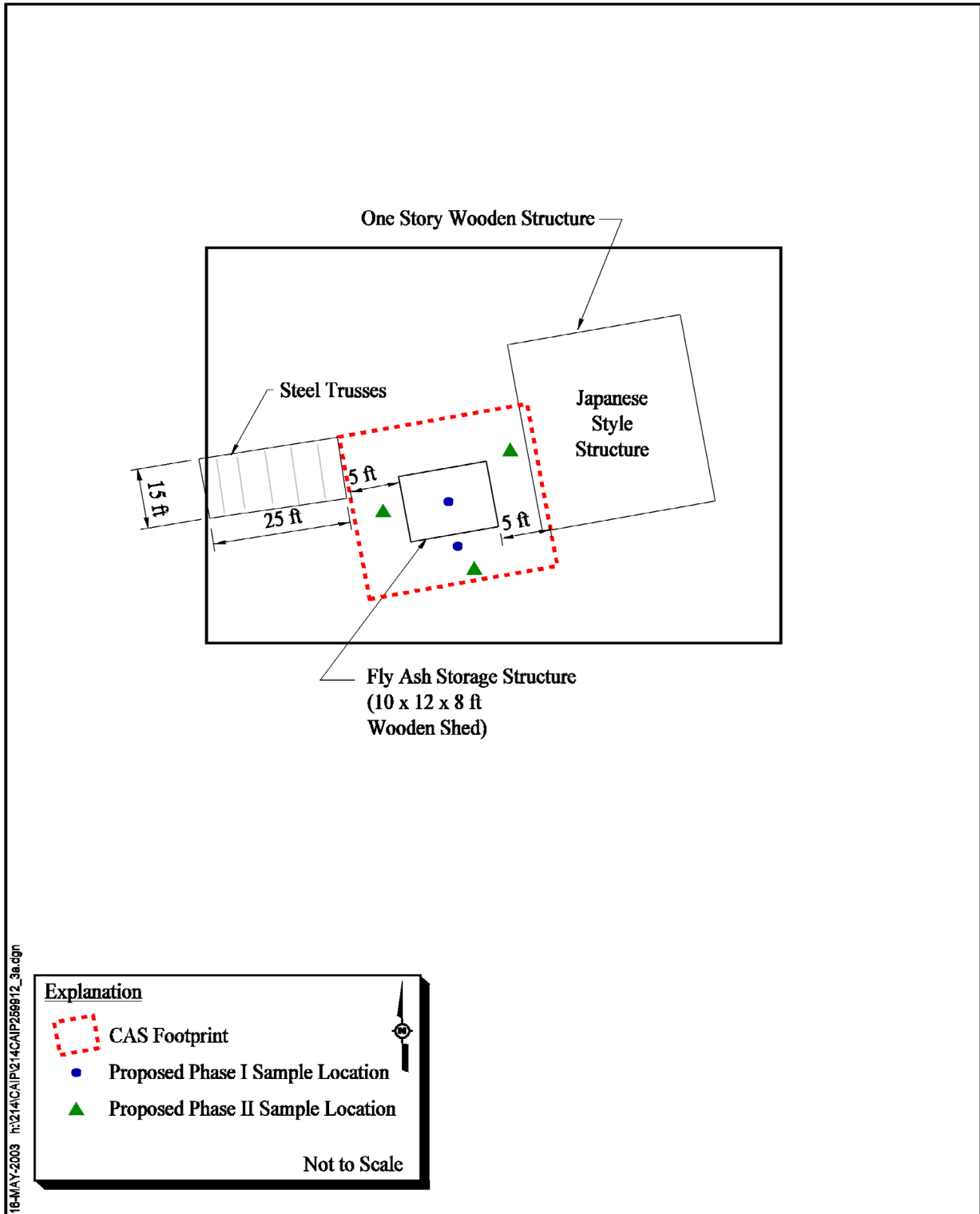


Figure A.1-17
Proposed Sampling Locations at CAS 25-99-12, Fly Ash Storage

Three surface soil stains have been identified to date at CASs 25-23-01 (two) and 25-23-19 (one); a green stain in the northwest corner of the yard (CAS 25-23-19), a stained area in the central portion of the yard, and a stained area in the southeast section of the yard (which includes the footprint of the pesticide-containing drum, since removed). A minimum of one soil sample will be collected from each soil stain and from where the pesticide drum was located. In addition, a minimum of two samples will be collected from the small drainage that exits the south side of the yard.

Additionally, supplemental samples will be collected from the locations identified by the Visual Sampling Plan software (PNNL, 2002). This software will randomize sample locations excluding areas from which biased samples were collected. Therefore, the exact number and location of the samples will be determined by re-running the software (following determination of the biased sample locations) using the parameters listed in the documented example for each CAS in [Appendix A.3](#).

Decision II step-out samples may be collected, as described in the introduction to [Section A.1.8](#). The Site Supervisor will determine if Decision II sampling is appropriate based on biasing factors, primarily field screening of Decision I samples. Proposed sampling locations at CAS 25-23-01 and CAS 25-23-19 are shown in [Figure A.1-18](#).

A.1.8.5 CAS 25-99-18, Storage Area

A minimum of one soil sample will be collected from the bottom of each of the two shallow depressions and a minimum of one soil sample will be collected from the footprint of the lead brick after the brick is moved. Transects of the graded area, spaced no more than 40 ft apart, will be walked to ensure that the whole yard is examined for potential biasing factors. If biasing factors reveal soil stains or other indications of contamination, the location will be marked with a pinflag or other appropriate methods, and a minimum of one soil sample will be collected per contamination feature or group of features.

Additionally, supplemental samples will be collected from the locations identified by the Visual Sampling Plan software (PNNL, 2002). This software will randomize sample locations excluding areas from which biased samples were collected. Therefore, the exact number and location of the samples will be determined by re-running the software (following determination of the biased

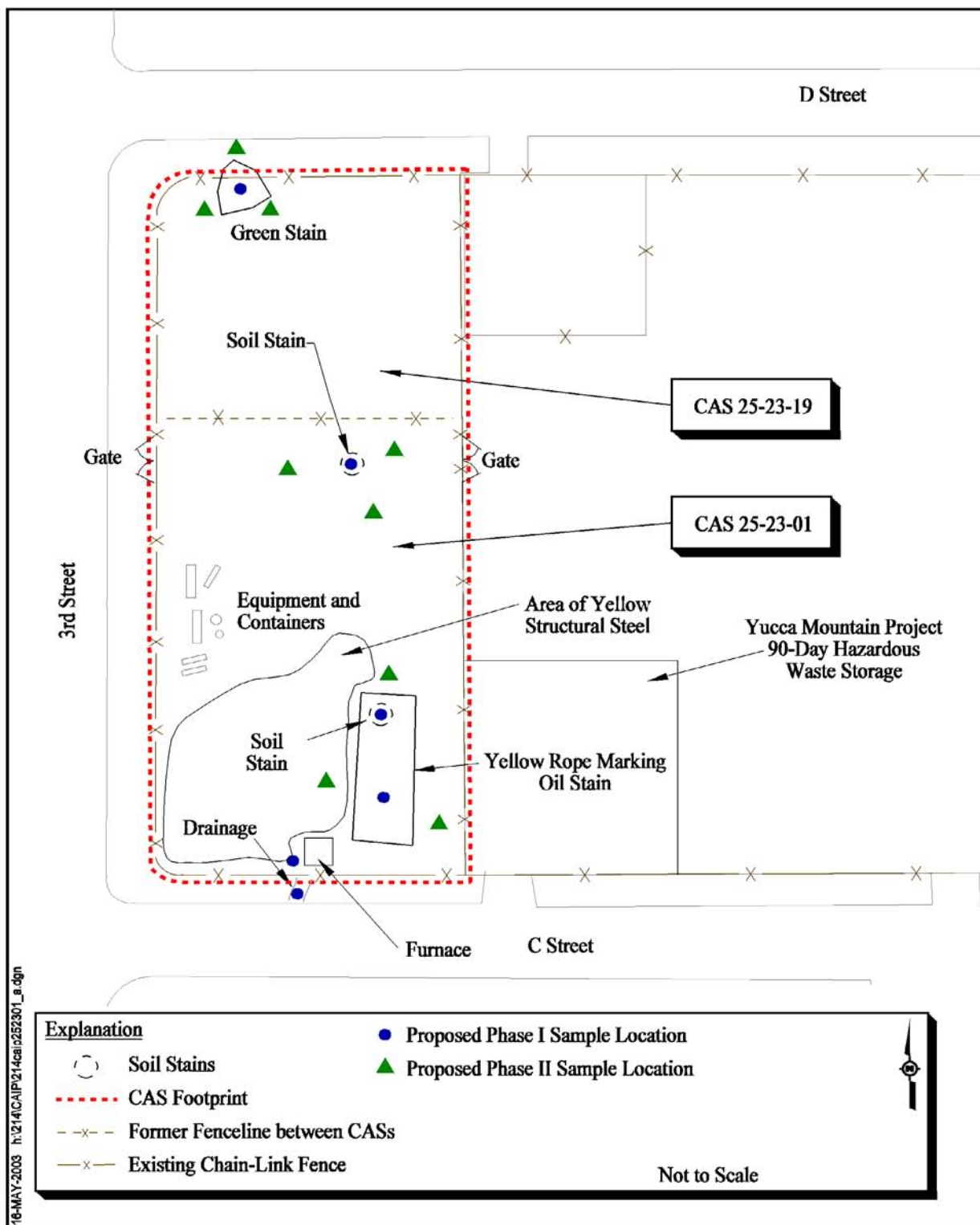


Figure A.1-18
Proposed Sampling Locations at CAS 25-23-01, Contaminated Materials, and CAS 25-23-19, Radioactive Material Storage

sampling locations) using the parameters listed in the documented example for this CAS in [Appendix A.3](#).

Decision II step-out samples may be collected, as described in the introduction to [Section A.1.8](#). The Site Supervisor will determine if Decision II sampling is appropriate based on biasing factors, primarily field screening of Decision I samples. Proposed sampling locations at CAS 25-99-18 are shown in [Figure A.1-19](#).

A.1.8.6 CASs 25-34-03, 25-34-04, and 25-34-05, Motor Dr/Gr Assembly (Bunker)

A walkover radiological survey covering 100 percent of the CAS footprint will be conducted as described in Section A.1.4.3.3. A minimum of use soil sample will be collected from any area, hotspot, or group of hotspots with a localized gamma emission rate statistically exceeding background as determined by the post-processed contour plot of the radiological survey data. In addition, radiological survey will be performed on accessible portions of the 1-in. steel cable between the CAS bunkers and the ETS-1 Building. Hotspots will be flagged and GPS coordinates will be obtained.

Prior to Decision I sample collection, miscellaneous surface debris will be moved and staged for waste disposal. A minimum of one sample will be collected from the soil below the drain hole at each of the bunkers.

Each bunker and its contained equipment will be evaluated as significant potential source(s) of contamination using appropriate methodology (e.g., photography, visual inspection). If significant potential contamination source(s) are identified, the source(s) may be sampled, as appropriate.

Decision II step-out samples may be collected, as described in the introduction to [Section A.1.8](#). The Site Supervisor will determine if Decision II sampling is appropriate based on biasing factors, primarily field screening of Decision I samples. Proposed sampling locations are shown in [Figure A.1-20](#) (CAS 25-34-03), [Figure A.1-21](#) (CAS 25-34-04), and [Figure A.1-22](#) (CAS 25-34-05).

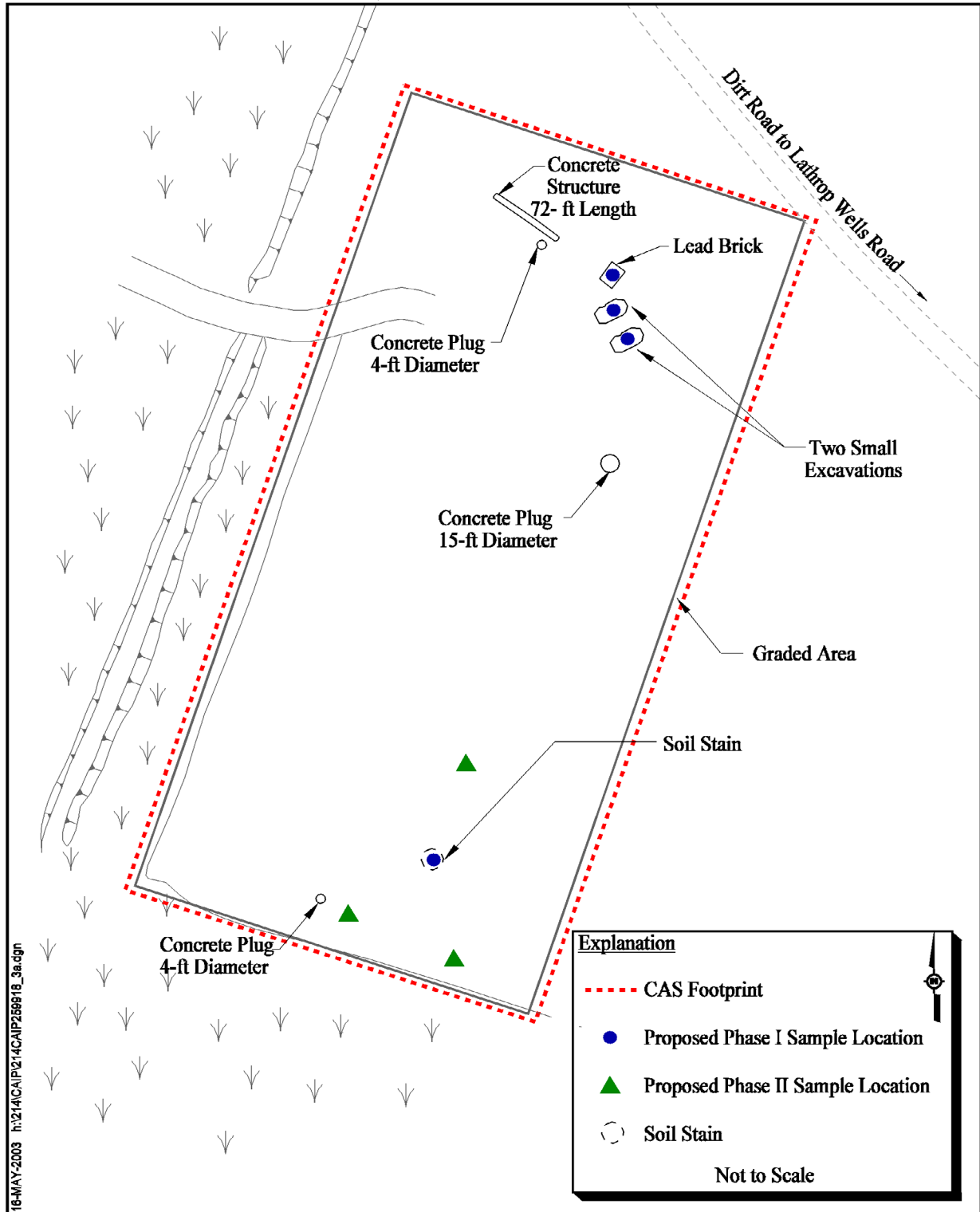


Figure A.1-19
Proposed Sampling Locations at CAS 25-99-18, Storage Area

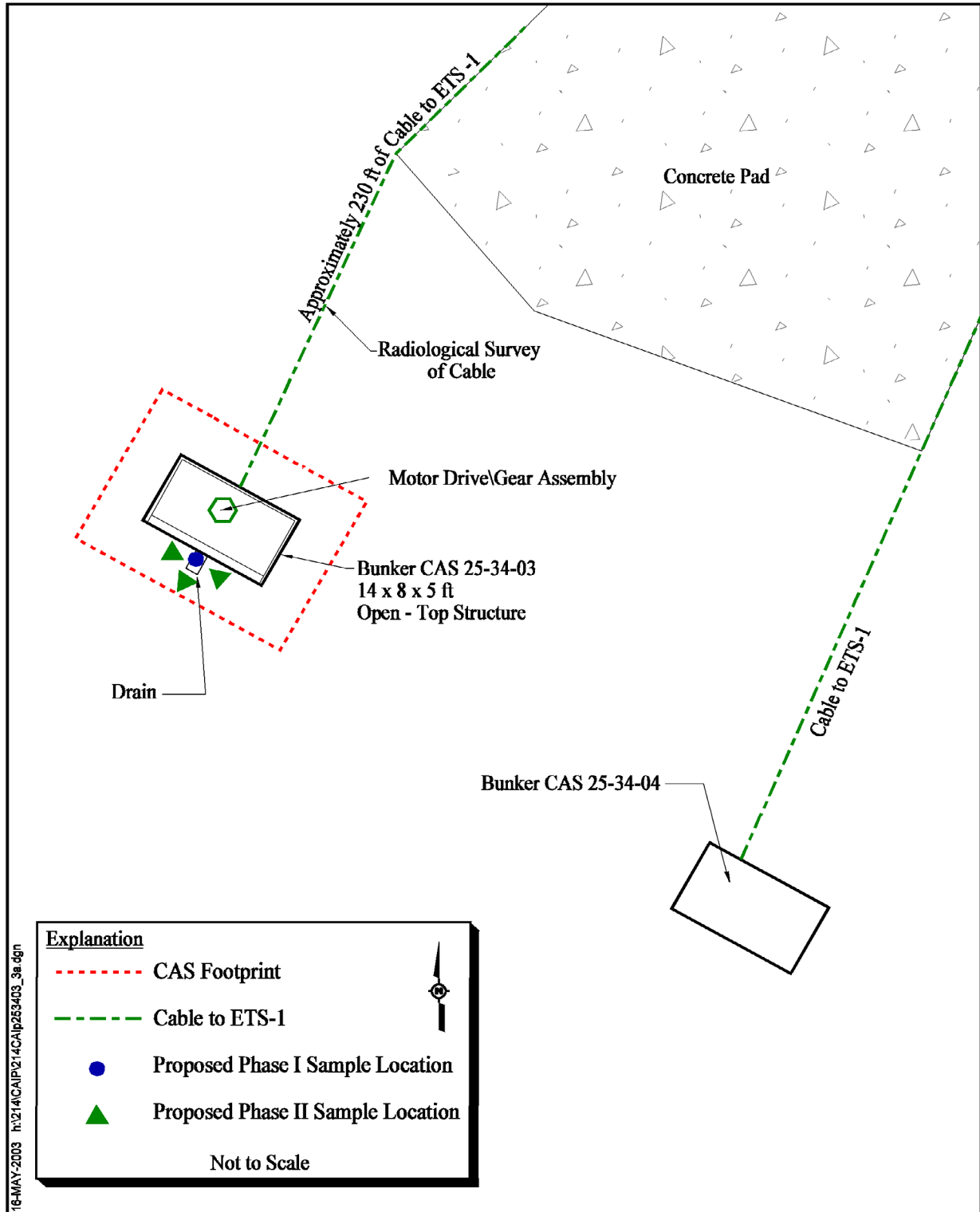


Figure A.1-20
Proposed Sampling Locations at CAS 25-34-03, Motor Dr/Gr Assembly (Bunker)

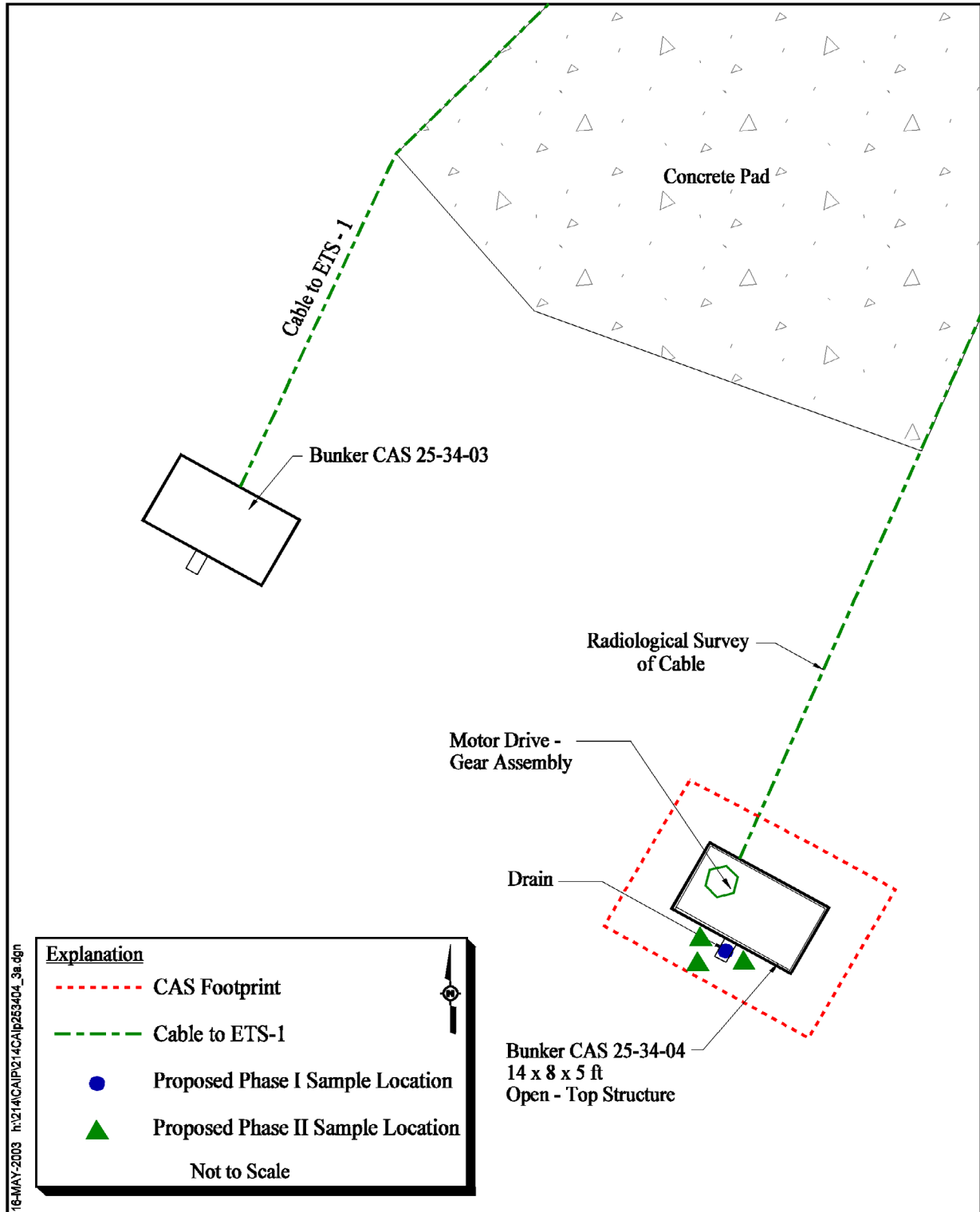


Figure A.1-21
Proposed Sampling Locations at CAS 25-34-04, Motor Dr/Gr Assembly (Bunker)

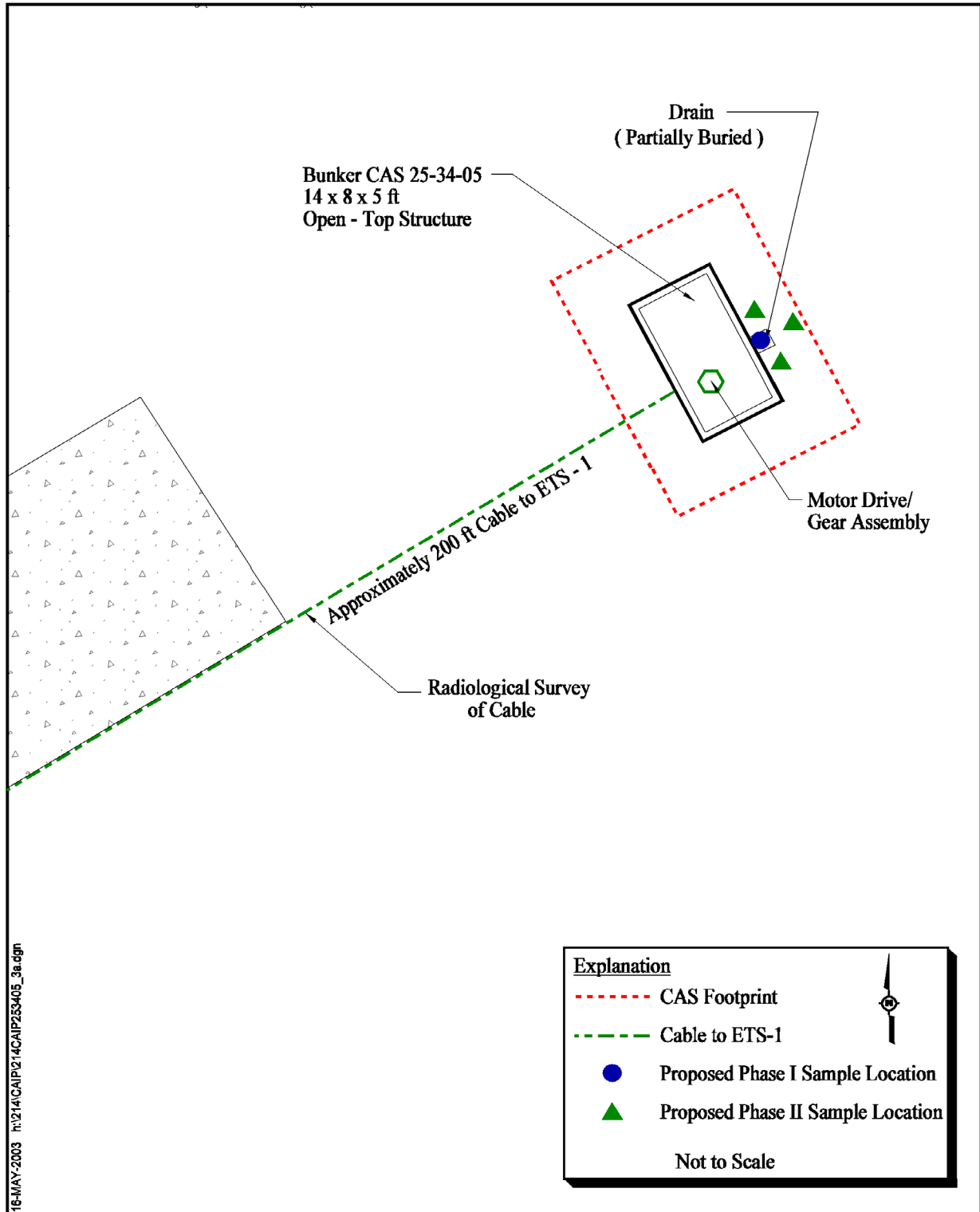


Figure A.1-22
Proposed Sampling Locations at CAS 25-34-05, Motor Dr/Gr Assembly (Bunker)

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APPENDIX B

ANALYTICAL RESULTS

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PROJECT / CLIENT INFORMATION		REPORT & TURNAROUND INFORMATION		SAMPLE INFORMATION	
Project: CAI 214	BN Org#: B502	Send Report to: Glenn Richardson	Phone: 295-5361	Fax: 295-6671	M/S: NTS306
Charge Number: 5B1A25D5		Turnaround: () Standard - 14 days IH, 28 days Non-rad Env, 45 days Rad Env (X) RUSH Preliminary by: (IH) <u>1</u> <u>2</u> <u>7</u> <u>14</u> <u>28</u> (Radiological Env)	Sampling Site: CAU 214 CAS 05-99-01 The samples submitted contain (check): () Hazardous - (list) _____ (X) Radioactive - (list) _____ () Unknown contamination. If known, identify contaminants. This information will ensure compliance with applicable regulations and allow for the safe handling of the sample materials.		
Project Manager: Jeffrey Smith					
Phone: 295-7775	Fax: 295-7761	M/S: NTS306			

SAMPLE MANAGEMENT INFORMATION

SDG: _____ (IH) Vallejo (Non-Rad Env) _____ (Rad Env)

Samples submitted are associated with a signed Project SOW. (X) YES () NO

Analyses entered here agree with the SOW. (X) YES () NO () N/A

If not, identify the variation: _____

Subcontract Lab(s) used for this work: Lionville

ID/DESCRIPTION	SAMPLING DATE	TIME	MATRIX	CONTAINER #	Est. Vol	MD	MS	MSD	Pres - Analysis eg. HCl - VOCs	8.3 (s)	3.4								
059901-V1	1 June 06	09:31	Soil	1	125 ml		X	X	Cool 4C	X									
059901-V2	1 June 06	09:28	Soil	1	125 ml				Cool 4C	X									
059901-V3	1 June 06	09:25	Soil	1	125 ml				Cool 4C	X									
059901-V4	1 June 06	09:22	Soil	1	125 ml				Cool 4C	X									
059901-V5	1 June 06	09:17	Soil	1	125 ml				Cool 4C	X									
059901-R1	1 June 06	09:10	Water	1	1 Liter				Cool 4C	X									
059901-V6	1 June 06	09:18	Soil	1	125 ml				Cool 4C	X									
Test done																			

CUSTODY TRANSFER

Sampled/Relinquished (print)	Signature	DATE / TIME	Received by (print)	Signature	DATE / TIME
Kevin Campbell	Kevin Campbell	6/1/06 11:04	BN ER Sample Refs	N/A	6/1/06 11:04
BN ER Sample Refs	Kevin Campbell	6/5/06 08:00	Kevin Campbell	Kevin Campbell	6/5/06 08:00
Kevin Campbell	Kevin Campbell	6/5/06 08:16	CD Castagna	Kevin Campbell	6/5/06 08:00
CD Castagna	CD Castagna	6/5/06 08:30	CD Castagna	CD Castagna	6/5/06 08:30

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 07/05/06 13:54

RFW Batch Number: 06061210

Client: BECHTEL NEVADA V2692

Work Order: 60052001001 Page: 1

Cust ID: 059901-V1 059901-V2 059901-V3 059901-V4 059901-V5 059901-R1

Sample Information	RFW#:	001	002	003	004	005	006
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	WATER
	D.F.:	1.00	1.00	1.00	1.00	1.00	1.00
	Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/L

Surrogate:	Tetrachloro-m-xylene	71	%	75	%	67	%	75	%	76	%	86	%
	Decachlorobiphenyl	79	%	82	%	87	%	78	%	85	%	45	%
Alpha-BHC		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
gamma-BHC (Lindane)		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Beta-BHC		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Heptachlor		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Delta-BHC		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Aldrin		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Heptachlor epoxide		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
gamma-Chlordane		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Endosulfan I		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
alpha-Chlordane		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
4,4'-DDE		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Dieldrin		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Endrin		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
4,4'-DDD		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Endosulfan II		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
4,4'-DDT		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Endrin aldehyde		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Endosulfan sulfate		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Methoxychlor		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Endrin ketone		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.051	U
Toxaphene		1.9	U	1.9	U	2.0	U	1.9	U	1.9	U	0.51	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP GC

Sample Information	RFW#:	Matrix:	D.F.:	Units:	Cust ID:	059901-V6	PBLKKA	PBLKKA BS	PBLKJL	PBLKJL BS	PBLKJL BSD	
	007	SOIL	1.00	UG/KG								
		SOIL	1.00	UG/KG								
		SOIL	1.00	UG/KG								
		WATER	1.00	UG/L								
		WATER	1.00	UG/L								
		WATER	1.00	UG/L								
Surrogate: Tetrachloro-m-xylene	81	%	71	%	83	%	81	%	75	%	76	%
Decachlorobiphenyl	88	%	93	%	93	%	58	%	59	%	48	%
Alpha-BHC	1.9	U	1.7	U	74	%	0.050	U	73	%	75	%
Gamma-BHC (Lindane)	1.9	U	1.7	U	78	%	0.050	U	76	%	79	%
Beta-BHC	1.9	U	1.7	U	69	%	0.050	U	62	%	65	%
Heptachlor	1.9	U	1.7	U	77	%	0.050	U	76	%	79	%
Delta-BHC	1.9	U	1.7	U	61	%	0.050	U	55	%	57	%
Aldrin	1.9	U	1.7	U	84	%	0.050	U	72	%	76	%
Heptachlor epoxide	1.9	U	1.7	U	87	%	0.050	U	85	%	84	%
Gamma-Chlordane	1.9	U	1.7	U	86	%	0.050	U	80	%	80	%
Endosulfan I	1.9	U	1.7	U	90	%	0.050	U	92	%	90	%
alpha-Chlordane	1.9	U	1.7	U	85	%	0.050	U	80	%	79	%
4,4'-DDE	1.9	U	1.7	U	88	%	0.050	U	92	%	89	%
Dieldrin	1.9	U	1.7	U	93	%	0.050	U	89	%	88	%
Endrin	1.9	U	1.7	U	101	%	0.050	U	93	%	93	%
4,4'-DDD	1.9	U	1.7	U	76	%	0.050	U	76	%	75	%
Endosulfan II	1.9	U	1.7	U	89	%	0.050	U	84	%	84	%
4,4'-DDT	1.9	U	1.7	U	81	%	0.050	U	84	%	81	%
Endrin aldehyde	1.9	U	1.7	U	76	%	0.050	U	80	%	77	%
Endosulfan sulfate	1.9	U	1.7	U	86	%	0.050	U	86	%	85	%
Methoxychlor	1.9	U	1.7	U	74	%	0.050	U	80	%	78	%
Endrin ketone	1.9	U	1.7	U	88	%	0.050	U	89	%	86	%
Toxaphene	19	U	17	U	17	U	0.50	U	0.50	U	0.50	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

PROJECT / CLIENT INFORMATION

Project: CAU214

BN Org#: B502

Charge Number: 5B1A25D5

Project Manager: Jeffrey Smith

Phone: 295-7775

Fax: 295-7761

M/S: NTS306

REPORT & TURNAROUND INFORMATION

Send Report to: Glenn Richardson

Phone: 295-5361

Fax: 295-6671

M/S: NTS306

Turnaround: () Standard - 14 days IH, 28 days Non-rad Env, 45 days Rad Env
() RUSH Preliminary by: (IH)
1 2 7 14 28 (Radiological Env)

SAMPLE INFORMATION

Sampling Site: CAU 214 CAS 25-23-01

The samples submitted contain (check):

() Hazardous - (list)

() Radioactive - (list)

(X) Unknown contamination. If known, identify contaminants. This information will ensure compliance with applicable regulations and allow for the safe handling of the sample materials.

SAMPLE MANAGEMENT INFORMATION

SDG: (IH) V2700 (Non-Rad Env) (Rad Env)

Samples submitted are associated with a signed Project SOW. YES () NO

Analyses entered here agree with the SOW. YES () NO () N/A

If not, identify the variation:

Subcontract Lab(s) used for this work:

HOKKULE

ID/DESCRIPTION	SAMPLING DATE	TIME	MATRIX	CONTAINER #	Est. Vol	MD	MS	MSD	Pres - Analysis eg. HCl - VOCs	Pesticides (8081)	Pesticides (8081)	3.4 Pay Item, Analysis, Method
252301-V1	28 June 06	1052	Soil	1	125 ml		X	X	Cool 4C	X		
252301-V2	28 June 06	1054	Soil	1	125 ml				Cool 4C	X		
252301-V3	28 June 06	1105	Soil	1	125 ml				Cool 4C	X		
252301-V4	28 June 06	1102	Soil	1	125 ml				Cool 4C	X		
252301-V5	28 June 06	1057	Soil	1	125 ml				Cool 4C	X		
252301-V6	28 June 06	1107	Soil	1	125 ml				Cool 4C	X		
252301-V7	28 June 06	1113	Soil	1	125 ml				Cool 4C	X		
252301-V8	28 June 06	1115	Soil	1	125 ml				Cool 4C	X		
252301-V9	28 June 06	1109	Soil	1	125 ml				Cool 4C	X		
252301-V10	28 June 06	1111	Soil	1	125 ml				Cool 4C	X		
252301-V11	28 June 06	1059	Soil	1	125 ml				Cool 4C	X		
252301-R1	28 June 06	1132	Water	1	1 Liter				Cool 4C	X		

CUSTODY TRANSFER

Sampled/Relinquished (print)

Signature

DATE / TIME

Received by (print)

Signature

DATE / TIME

Kevin Campbell	Kevin Campbell	6/28/06 1214	Eric Sample Relinquished	NA	6/28/06 1214
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Eric Sample Relinquished	Kevin Campbell	6/29/06 0924	Kevin Campbell	NA	6/29/06 0924
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Kevin Campbell	Kevin Campbell	6/29/06 0933	Kevin Campbell	NA	6/29/06 0933
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Kevin Campbell	Kevin Campbell	6/29/06 1300	Kevin Campbell	NA	6/29/06 1300
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Retention Code: ENV 5.c(1)

BN-0732

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

RFW Batch Number. 06061404

Client. BECHTEL NEVADA V2700

Work Order. 60052001001 Page: 1

Report Date: 07/19/06 14:40

Cust ID: 252301-V1 252301-V1 252301-V1 252301-V2 252301-V3 252301-V4

Sample Information	RFW#: 001	001 MS	001 MSD	002	003	004
Matrix: D.F.:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Units:	1.00 UG/KG	1.00 UG/KG	1.00 UG/KG	1.00 UG/KG	1.00 UG/KG	1.00 UG/KG

Surrogate:	Tetrachloro-m-xylene	Decachlorobiphenyl	107	107	%	99	109	%	102	108	%	106	106	%	105	106	%	92	%
Alpha-BHC			1.8	U		102	%		100	%		1.7	U		1.8	U		1.7	U
gamma-BHC (Lindane)			1.8	U		105	%		103	%		1.7	U		1.8	U		1.7	U
Beta-BHC			1.8	U		113	%		114	%		1.7	U		1.8	U		1.7	U
Heptachlor			1.8	U		109	%		106	%		1.7	U		1.8	U		1.7	U
Delta-BHC			1.8	U		97	%		96	%		1.7	U		1.8	U		1.7	U
Aldrin			1.8	U		102	%		100	%		1.7	U		1.8	U		1.7	U
Heptachlor epoxide			1.8	U		110	%		106	%		1.7	U		1.8	U		1.7	U
gamma-Chlordane			1.8	U		113	%		109	%		2.7			0.78	J		1.7	U
Endosulfan I			1.8	U		111	%		108	%		2.8			1.8	U		1.7	U
alpha-Chlordane			1.8	U		111	%		107	%		24			0.70	J		1.7	U
4,4'-DDE			1.8	U		113	%		113	%		1.7	U		1.8	U		1.7	U
Dieldrin			1.8	U		114	%		111	%		1.7	U		1.8	U		1.7	U
Endrin			1.8	U		123	%		123	%		1.7	U		1.8	U		1.7	U
4,4'-DDD			1.8	U		120	%		123	%		1.7	U		1.8	U		1.7	U
Endosulfan II			1.8	U		108	%		105	%		1.7	U		1.8	U		1.7	U
4,4'-DDT			1.8	U		124	%		123	%		4.0			1.8	U		1.7	U
Endrin aldehyde			1.8	U		99	%		97	%		2.4			1.8	U		1.7	U
Endosulfan sulfate			1.8	U		115	%		113	%		1.7	U		1.8	U		1.7	U
Methoxychlor			1.8	U		216	%		231	%		1.7	U		1.8	U		1.7	U
Endrin ketone			1.8	U		110	%		107	%		1.7	U		1.8	U		1.7	U
Toxaphene			18	U		18	U		18	U		17	U		18	U		17	U

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 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 07/19/06 14:40

RFW Batch Number: 06061404

Client: BECHTEL NEVADA V2700

Work Order: 60052001001 Page: 2

Sample Information	RFW#:	005	006	007	007 DL	008	008 DL
Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
D.F.:	1.00	1.00	1.00	10.0	1.00	10.0	10.0
Units:	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG	UG/KG

Surrogate:	Tetrachloro-m-xylene	113	%	109	%	110	%	95	%	106	%	96	%
	Decachlorobiphenyl	103	%	113	%	104	%	114	%	100	%	117	%
Alpha-BHC		1.7	U	1.7	U	1.8	U	NA		1.7	U	NA	
gamma-BHC (Lindane)		1.7	U	1.7	U	1.8	U	NA		1.7	U	NA	
Beta-BHC		1.7	U	1.7	U	1.8	U	NA		1.7	U	NA	
Heptachlor		1.7	U	1.7	U	3.3	U	NA		3.6	U	NA	
Delta-BHC		1.7	U	1.7	U	1.8	U	NA		1.7	U	NA	
Aldrin		1.7	U	1.7	U	1.8	U	NA		1.7	U	NA	
Heptachlor epoxide		1.7	U	1.7	U	1.8	U	NA		1.7	U	NA	
gamma-Chlordane		6.3	U	0.69	J	1.8	E	470		1.7	U	230	
Endosulfan I		1.3	J	1.7	U	1.8	U	NA		1.7	U	NA	
alpha-Chlordane		5.5	U	0.56	J	1.8	E	370		1.7	U	200	
4,4'-DDE		1.7	U	1.7	U	20	U	NA		1.7	U	NA	
Dieldrin		1.7	U	1.7	U	1.8	U	NA		1.7	U	NA	
Endrin		1.7	U	1.7	U	33	U	NA		3.3	U	NA	
4,4'-DDD		5.1	U	1.7	U	1.8	U	NA		1.7	U	NA	
Endosulfan II		1.7	U	1.7	U	8.2	U	NA		1.7	U	NA	
4,4'-DDT		1.7	U	1.7	U	24	U	NA		1.9	U	NA	
Endrin aldehyde		0.56	J	1.7	U	1.7	J	NA		1.7	U	NA	
Endosulfan sulfate		1.7	U	1.7	U	1.8	U	NA		1.7	U	NA	
Methoxychlor		1.7	U	1.7	U	1.8	U	NA		1.7	U	NA	
Endrin ketone		1.7	U	1.7	U	1.8	U	NA		1.7	U	NA	
Toxaphene		17	U	17	U	18	U	NA		17	U	NA	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP GC

Lionville Laboratory, Inc.

Pesticide/PCBs by GC, CLP List

Report Date: 07/19/06 14:40

RFW Batch Number. 0606L404

Client. BECHTEL NEVADA V2700

Work Order: 60052001001

Page: 3

Sample Information	RFW#:	009	010	011	012	06LE0542-MB1	06LE0542-MB1
Matrix:	SOIL	SOIL	SOIL	WATER	SOIL	SOIL	SOIL
D.F.:	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Units:	UG/KG	UG/KG	UG/KG	UG/L	UG/KG	UG/KG	UG/KG
Cust ID:	252301-V9	252301-V10	252301-V11	252301-R1	PBLKV	PBLKV BS	
Surrogate:	Tetrachloro-m-xylene	105	110	99	93	108	105
	Decachlorobiphenyl	92	110	84	95	108	105
Alpha-BHC	1.7	1.7	1.7	0.050	1.7	1.7	103
gamma-BHC (Lindane)	1.7	1.7	1.7	0.050	1.7	1.7	111
Beta-BHC	1.7	1.7	1.7	0.093	1.7	1.7	114
Heptachlor	1.7	1.7	1.7	0.050	1.7	1.7	104
Delta-BHC	1.7	1.7	1.7	0.050	1.7	1.7	120
Aldrin	1.7	1.7	1.7	0.050	1.7	1.7	103
Heptachlor epoxide	1.7	1.7	1.7	0.050	1.7	1.7	104
gamma-Chlordane	3.0	0.55	4.9	0.050	1.7	1.7	109
Endosulfan I	1.7	1.7	1.1	0.050	1.7	1.7	112
alpha-Chlordane	2.7	0.45	4.2	0.050	1.7	1.7	108
4,4'-DDE	1.7	1.7	2.8	0.050	1.7	1.7	130
Dieldrin	1.7	1.7	0.41	0.050	1.7	1.7	111
Endrin	1.7	1.7	1.7	0.050	1.7	1.7	121
4,4'-DDD	1.7	1.7	1.7	0.050	1.7	1.7	149
Endosulfan II	1.7	1.7	1.7	0.013	1.7	1.7	109
4,4'-DDT	3.8	1.7	1.7	0.050	1.7	1.7	159
Endrin aldehyde	1.7	1.7	0.90	0.050	1.7	1.7	98
Endosulfan sulfate	1.7	1.7	1.7	0.050	1.7	1.7	117
Methoxychlor	1.7	1.7	1.7	0.050	1.7	1.7	206
Endrin ketone	1.7	1.7	1.7	0.050	1.7	1.7	113
Toxaphene	17	17	17	0.50	17	17	17

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
 %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP QC

Cust ID: PBLKKT PBLKKT BS PBLKKT BSD

Sample Information RFW#: 06LE0541-MB1 06LE0541-MB1 06LE0541-MB1

Matrix: WATER WATER WATER

D.F.: 1.00 1.00 1.00

Units: UG/L UG/L UG/L

Surrogate: Tetrachloro-m-xylene	81	%	90	%	80	%
Decachlorobiphenyl	92	%	96	%	98	%
Alpha-BHC	0.050	U	106	%	104	%
gamma-BHC (Lindane)	0.050	U	108	%	106	%
Beta-BHC	0.050	U	126	%	123	%
Heptachlor	0.050	U	114	%	108	%
Delta-BHC	0.050	U	105	%	105	%
Aldrin	0.050	U	103	%	97	%
Heptachlor epoxide	0.050	U	107	%	106	%
gamma-Chlordane	0.050	U	107	%	106	%
Endosulfan I	0.050	U	108	%	107	%
alpha-Chlordane	0.050	U	105	%	104	%
4,4'-DDE	0.050	U	117	%	116	%
Dieldrin	0.050	U	111	%	110	%
Endrin	0.050	U	124	*	122	*
4,4'-DDD	0.050	U	140	*	137	*
Endosulfan II	0.050	U	102	%	100	%
4,4'-DDT	0.050	U	108	%	109	%
Endrin aldehyde	0.050	U	94	%	95	%
Endosulfan sulfate	0.050	U	108	%	107	%
Methoxychlor	0.050	U	246	*	298	*
Endrin ketone	0.050	U	101	%	100	%
Toxaphene	0.50	U	0.50	U	0.50	U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not reported. NS= Not spiked.
%= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. *= Outside of EPA CLP GC

PROJECT / CLIENT INFORMATION				REPORT & TURNAROUND INFORMATION				SAMPLE INFORMATION			
Project: CAI 214	BN Org#: B502	Send Report to: Glenn Richardson		Phone: 295-5361		Fax: 295-6671		M/S: NTS306		Sampling Site: CAU 214 CAS 25-23-19	
Charge Number: 5B1A25D5				Turnaround: () Standard - 14 days IH, 28 days Non-rad Env, 45 days Rad Env () RUSH Preliminary by: (IH)		1 2 7 14 28 (non-Rad Env) 1 7 14 28 (Radiological Env)				The samples submitted contain (check): () Hazardous - (list) () Radioactive - (list) () Unknown contamination. If known, identify contaminants. This information will ensure compliance with applicable regulations and allow for the safe handling of the sample materials.	
Project Manager: Jeffrey Smith											
Phone: 295-7775	Fax: 295-7761	M/S: NTS306									
SAMPLE MANAGEMENT INFORMATION											
SDG: (IH) <u>Valores</u> (Non-Rad Env) (Rad Env)											
Samples submitted are associated with a signed Project SOW. (X) YES () NO											
Analyses entered here agree with the SOW. (X) YES () NO () N/A											
If not, identify the variation: _____											
Subcontract Lab(s) used for this work: <u>Laborville</u>											
ID/DESCRIPTION	SAMPLING DATE	TIME	MATRIX	CONTAINER #	Est. Vol	QC MD	MS	MSD	Pres - Analysis eg. HCl - VOCs	Total RCRA Metals	Total RCRA METALS.
252319-V1	8 June 06		Soil	1	125 ml		X	X	Cool 4C	X	
252319-V2	8 June 06		Soil	1	125 ml				Cool 4C	X	
252319-V3	8 June 06		Soil	1	125 ml				Cool 4C	X	
252319-V4	8 June 06		Soil	1	125 ml				Cool 4C	X	
252319-V5	8 June 06		Soil	1	125 ml				Cool 4C	X	
252319-V6	8 June 06		Soil	1	125 ml				Cool 4C	X	
252319-R1	8 June 06		Water	1	1 Lier				pH<2 HNO3	X	
CUSTODY TRANSFER											
Sampled/Relinquished (print)		Signature		DATE / TIME		Received by (print)		Signature		DATE / TIME	
Kevin Campbell BNER		<u>Kevin Campbell</u>		6/8/06 1700		BNER Single Refractor		<u>Kevin Campbell</u>		6/8/06 17:00	
PURE SAMPLE REFERENCE		<u>For ref</u>		6/12/06 1030		BEN MCGEE BNER		<u>Ben McGee</u>		6/12/06 1030	
BEN MCGEE BNER		<u>Ben McGee</u>		6/12/06 1035		CAI GASTHUEDA		<u>CAI GASTHUEDA</u>		6/12/06 1035	
CAI GASTHUEDA		<u>CAI GASTHUEDA</u>		6/14/06 @ 1300		For ref		<u>For ref</u>		6/14/06 @ 1300	

Lionville Laboratory Inc

INORGANICS DATA SUMMARY REPORT 06/21/06

CLIENT: BECHTEL NEVADA V2695

LOT #: 06061264

WORK ORDER: 60052-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
-001	252319-V1	Silver, Total	0 07 u	MG/KG	0 07	1 0
		Arsenic, Total	2 5	MG/KG	0 60	1 0
		Barium, Total	64 3	MG/KG	0 02	1 0
		Cadmium, Total	0 07 u	MG/KG	0 07	1 0
		Chromium, Total	8 9	MG/KG	0 13	1 0
		Mercury, Total	0 02 u	MG/KG	0 02	1 0
		Lead, Total	3 2	MG/KG	0 31	1 0
		Selenium, Total	0 46 u	MG/KG	0 46	1 0
-002	252319-V2	Silver, Total	0 07 u	MG/KG	0 07	1 0
		Arsenic, Total	2 3	MG/KG	0 59	1 0
		Barium, Total	126	MG/KG	0 02	1 0
		Cadmium, Total	0 07 u	MG/KG	0 07	1 0
		Chromium, Total	73 6	MG/KG	0 13	1 0
		Mercury, Total	0 02 u	MG/KG	0 02	1 0
		Lead, Total	3 9	MG/KG	0 30	1 0
		Selenium, Total	0 46 u	MG/KG	0 46	1 0
-003	252319-V3	Silver, Total	0 07 u	MG/KG	0 07	1 0
		Arsenic, Total	2 7	MG/KG	0 61	1 0
		Barium, Total	70 4	MG/KG	0 02	1 0
		Cadmium, Total	0 07 u	MG/KG	0 07	1 0
		Chromium, Total	14 8	MG/KG	0 13	1 0
		Mercury, Total	0 02 u	MG/KG	0 02	1 0
		Lead, Total	8 1	MG/KG	0 31	1 0
		Selenium, Total	0 47 u	MG/KG	0 47	1 0
-004	252319-V4	Silver, Total	0 07 u	MG/KG	0 07	1 0
		Arsenic, Total	2 5	MG/KG	0 61	1 0
		Barium, Total	98 0	MG/KG	0 02	1 0
		Cadmium, Total	0 07 u	MG/KG	0 07	1 0
		Chromium, Total	39 7	MG/KG	0 13	1 0
		Mercury, Total	0 03	MG/KG	0 02	1 0
		Lead, Total	3 7	MG/KG	0 31	1 0
		Selenium, Total	0 47 u	MG/KG	0 47	1 0

Lionville Laboratory Inc

INORGANICS DATA SUMMARY REPORT 06/21/06

CLIENT: BECHTEL NEVADA V2695

IVI LOT #: 06061264

WORK ORDER: 60052-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	REPORTING	DILUTION
					LIMIT	FACTOR
=====	=====	=====	=====	=====	=====	=====
-005	252319-V5	Silver, Total	0.07 u	MG/KG	0.07	1.0
		Arsenic, Total	2.0	MG/KG	0.60	1.0
		Barium, Total	75.7	MG/KG	0.02	1.0
		Cadmium, Total	0.07 u	MG/KG	0.07	1.0
		Chromium, Total	5.8	MG/KG	0.13	1.0
		Mercury, Total	0.01 u	MG/KG	0.01	1.0
		Lead, Total	3.8	MG/KG	0.31	1.0
		Selenium, Total	0.47 u	MG/KG	0.47	1.0
-006	252319-V6	Silver, Total	0.07 u	MG/KG	0.07	1.0
		Arsenic, Total	2.8	MG/KG	0.59	1.0
		Barium, Total	137	MG/KG	0.02	1.0
		Cadmium, Total	0.07 u	MG/KG	0.07	1.0
		Chromium, Total	71.8	MG/KG	0.13	1.0
		Mercury, Total	0.02	MG/KG	0.01	1.0
		Lead, Total	4.0	MG/KG	0.30	1.0
		Selenium, Total	0.46 u	MG/KG	0.46	1.0
-007	252319-R1	Silver, Total	0.70 u	UG/L	0.70	1.0
		Arsenic, Total	6.1 u	UG/L	6.1	1.0
		Barium, Total	0.56	UG/L	0.20	1.0
		Cadmium, Total	0.70 u	UG/L	0.70	1.0
		Chromium, Total	1.3 u	UG/L	1.3	1.0
		Mercury, Total	0.10 u	UG/L	0.10	1.0
		Lead, Total	3.1 u	UG/L	3.1	1.0
		Selenium, Total	4.7 u	UG/L	4.7	1.0

Unionville Laboratory, Inc

INORGANICS METHOD BLANK DATA SUMMARY PAGE 05/21/06

CLIENT: BECHTEL NEVADA V2695

IVI LOI #: 06061264

WORK ORDER: 60052-001-001-0001-00

SAMPLE	SIIE ID	ANALYIE	RESULI	UNITIS	REPORTING LIMIT	DILUTION FACTOR
=====	=====	=====	=====	=====	=====	=====
BLANK1	0610368-MB1	Silver, Total	0 07 u	MG/KG	0 07	1 0
		Arsenic Total	0 61 u	MG/KG	0 61	1 0
		Barium Total	0 02 u	MG/KG	0 02	1 0
		Cadmium Total	0 07 u	MG/KG	0 07	1 0
		Chromium Total	0 13 u	MG/KG	0 13	1 0
		Lead Total	0 31 u	MG/KG	0 31	1 0
		Selenium, Total	0 47 u	MG/KG	0 47	1 0
BLANK1	06C0120-MB1	Mercury Total	0 02 u	MG/KG	0 02	1 0
BLANK1	06L0367-MB1	Silver Total	0 70 u	UG/L	0 70	1 0
		Arsenic Total	6 1 u	UG/L	6 1	1 0
		Barium Total	0 20 u	UG/L	0 20	1 0
		Cadmium Total	0 70 u	UG/L	0 70	1 0
		Chromium Total	1 3 u	UG/L	1 3	1 0
		Lead, Total	3 1 u	UG/L	3 1	1 0
		Selenium, Total	4 7 u	UG/L	4 7	1 0
ICS1	06C0121-IC1	Mercury, Total	5 2	UG/L	0 20	1 0
BLANK1	06C0121-MB1	Mercury, Total	0 10 u	UG/L	0 10	1 0

Unionville Laboratory Inc

INORGANICS ACCURACY REPORT 06/21/06

CLIENT: BECHTEL NEVADA V2695

IVI IOI #: 06061264

WORK ORDER: 60052-001-001-0001-00

SAMPLE	SITE ID	ANALYSE	SPIKED SAMPLE	INITIAL RESULT	SPIKED AMOUNT	%RECOV	DILUTION FACTOR (SPK)
=====	=====	=====	=====	=====	=====	=====	=====
-001	252319-V1	Silver, Total	4.5	0.07u	4.9	91.8	1.0
		Silver, Total MSD	4.5	0.07u	4.9	91.8	1.0
		Arsenic, Total	189	2.5	197	94.8	1.0
		Arsenic, Total MSD	189	2.5	197	94.8	1.0
		Barium, Total	272	64.3	197	105.4	1.0
		Barium, Total MSD	254	64.3	197	96.4	1.0
		Cadmium, Total	4.9	0.07u	4.9	100	1.0
		Cadmium, Total MSD	4.9	0.07u	4.9	100	1.0
		Chromium, Total	30.8	8.9	19.7	111.2	1.0
		Chromium, Total MSD	28.3	8.9	19.7	98.5	1.0
		Mercury, Total	0.16	0.02u	0.15	109.4	1.0
		Mercury, Total MSD	0.19	0.02u	0.16	114.7	1.0
		Lead, Total	52.8	3.2	49.3	100.6	1.0
		Lead, Total MSD	52.2	3.2	49.3	99.4	1.0
		Selenium, Total	175	0.46u	197	88.7	1.0
		Selenium, Total MSD	174	0.46u	197	88.1	1.0

Lionville Laboratory Inc.

INORGANICS DUPLICATE SPIKE REPORT 06/21/06

CLIENT: BECHTEL NEVADA V2695

IVI LOI #: 06061264

WORK ORDER: 60052-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	SPIKE#1 %RECOV	SPIKE#2 %RECOV	%DIFF
=====	=====	=====	=====	=====	=====
-001	252319-V1	Silver Total	91.8	91.8	0.00
		Arsenic, Total	94.8	94.8	0.00
		Barium, Total	105.4	96.4	8.9
		Cadmium Total	100	100	0.00
		Chromium, Total	111.2	98.5	12.1
		Mercury, Total	109.4	114.7	4.8
		Lead Total	100.6	99.4	1.2
		Selenium Total	88.7	88.1	0.63

Lionville Laboratory, Inc

INORGANICS PRECISION REPORT 06/21/06

CLIENT: BECHTEL NEVADA V2695

LVL LOI #: 06061264

WORK ORDER: 60052-001-001-0001-00

SAMPLE	SITE ID	ANALYTE	INITIAL		DILUTION
			RESULT	REPLICATE RPD	
=====	=====	=====	=====	=====	=====
-001REP	252319-V1	Silver, Total	0.07u	0.07u NC	1.0
		Arsenic, Total	2.5	2.5 0.00	1.0
		Barium, Total	64.3	79.7 21.4	1.0
		Cadmium, Total	0.07u	0.07u NC	1.0
		Chromium, Total	8.9	10.0 11.6	1.0
		Mercury, Total	0.02u	0.01u NC	1.0
		Lead, Total	3.2	4.2 27.0	1.0
		Selenium, Total	0.46u	0.46u NC	1.0

Lionville Laboratory Inc

INORGANICS LABORATORY CONTROL STANDARDS REPORT 06/21/06

CLIENT: BECHTEL NEVADA V2695

IVI LOI #: 06061264

WORK ORDER: 60052-001-001-0001-00

SAMPLE	SIIB ID	ANALYTE	SPIKED SAMPLE	SPIKED AMOUNT	UNITS	%RECOV
=====	=====	=====	=====	=====	=====	=====
ICS1	06I0368-IC1	Silver LCS	48 4	50 0	MG/KG	96 8
		Arsenic ICS	938	1000	MG/KG	93 8
		Barium, ICS	484	500	MG/KG	96 9
		Cadmium LCS	24 9	25 0	MG/KG	99 6
		Chromium ICS	50 5	50 0	MG/KG	101 0
		Lead LCS	247	250	MG/KG	98 8
		Selenium LCS	881	1000	MG/KG	88 1
ICS1	06C0120-IC1	Mercury ICS	6 2	6 2	MG/KG	99 9
LCS1	06I0367-IC1	Silver ICS	504	500	UG/L	100 9
		Arsenic, ICS	9940	10000	UG/L	99 4
		Barium, ICS	4960	5000	UG/L	99 1
		Cadmium ICS	256	250	UG/L	102 5
		Chromium LCS	510	500	UG/L	102 1
		Lead ICS	2540	2500	UG/L	101 7
		Selenium ICS	10000	10000	UG/L	100

APPENDIX C

WASTE DISPOSITION DOCUMENTATION

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NTS LANDFILL LOAD VERIFICATION

(Waste definitions are available on page 2)

SWO USE (Select One) AREA ☐ 23 ☐ 6 ☒ 9 ☒ **LANDFILL**

For waste characterization, approval, and/or assistance, contact Solid Waste Operation (SWO) at 5-7898.

REQUIRED: WASTE GENERATOR INFORMATION

(This form is for rollofs, dump trucks, and other onsite disposal of materials.)

Waste Generator: Glen Richardson/Rob BaumerPhone Number: 5361/5682Location / Origin: Area 25 Calk-214

Waste Category: (check one)

☐ Commercial☒ Industrial

Waste Type:

☒ NTS☐ Putrescible☒ FFACO-onsite☐ WAC Exception

(check one)

☐ Non-Putrescible☐ Asbestos Containing Material☐ FFACO-offsite☐ Historic DOE/NV

Pollution Prevention Category: (check one)

☒ Environmental management☐ Defense Projects☐ YMP

Pollution Prevention Category: (check one)

☒ Clean-Up☐ Routine

Method of Characterization: (check one)

☒ Sampling & Analysis☒ Process Knowledge☐ Contents

Prohibited Waste at all three NTS landfills:

Radioactive waste; RCRA waste; Hazardous waste; Free liquids, PCBs above TSCA regulatory levels, and Medical wastes (needles, sharps, bloody clothing).

Additional Prohibited Waste at the Area 9 U10C Landfill:

Sewage Sludge, Animal carcasses, Wet garbage (food waste); and Friable asbestos

REQUIRED: WASTE CONTENTS ALLOWABLE WASTES

Check all allowable wastes that are contained within this load:

NOTE: Waste disposal at the Area 6 Hydrocarbon Landfill must have come into contact with petroleum hydrocarbons or coolants such as: gasoline (no benzene, lead); jet fuel; diesel fuel; lubricants and hydraulics' kerosene; asphaltic petroleum hydrocarbon; and ethylene glycol.

Acceptable waste at any NTS landfill:

☒ Paper☒ Rocks / unaltered geologic materials☐ Empty containers☐ Asphalt☒ Metal☒ Wood☒ Soil☒ Rubber (excluding tires)☐ Demolition debris☐ Plastic☐ Wire☐ Cable☒ Cloth☐ Insulation (non-Asbestosform)☐ Cement & concrete☒ Manufactured items: (swamp coolers, furniture, rugs, carpet, electronic components, PPE, etc.)

Additional waste accepted at the Area 23 Mercury Landfill:

☐ Office Waste☐ Food Waste☐ Animal Carcasses☐ Asbestos☐ Friable☐ Non-Friable (contact SWO if regulated load)

Quantity: _____

Additional waste accepted at the Area 9 U10c Landfill:

☐ Non-friable asbestos☐ Drained automobiles and military vehicles☐ Solid fractions from sand/oil/water separators☐ Light ballasts (contact SWO)☐ Drained fuel filters (gas & diesel)☐ Deconned Underground and Above Ground☐ Hydrocarbons (contact SWO)☐ Other _____

Tanks

Additional waste accepted at the Area 6 Hydrocarbon Landfill:

☐ Other _____☐ Septic sludge☐ Rags☐ Drained fuel filters (gas & diesel)☐ Crushed non-teme plated oil filters☐ Plants☐ Soil☐ Sludge from sand/oil/water separators☐ PCBs below 50 parts per million**REQUIRED: WASTE GENERATOR SIGNATURE**

Initials: _____ (if initialed, no radiological clearance is necessary.)

The above mentioned waste was generated outside of a Controlled Waste Management Area (CWMA) and to the best of my knowledge, does not contain radiological materials.

To the best of my knowledge, the waste described above contains only those materials have verified this through the waste characterization method identified above and a n and allowable waste items. I have contacted Property Management and have verified disposal in the landfill.

Print Name: Robert BaumerSignature: Robert BaumerDate: 6/08/06

Note: Food waste, office trash and/or animal carcasses are considered not to contain require a radiological clearance.

Radiological Survey Release for Waste Disposal RCT Initials

_____ This container/load meets the criteria for no added man-made radioactive material
 _____ This container/load meets the criteria for Radcon Manual Table 4.2 release limits.
☒ This container/load is exempt from survey due to process knowledge and origin.

SIGNATURE: [Signature]DATE: 06-08-06

BN-0646 (10/05)

SWO USE ONLYLoad Weight (net from scale or estimate): 23,920Signature of Certifier: [Signature]

SWO USE (Circle One Area) AREA 23 6 9 LANDFILL

For waste characterization, approval, and/or assistance, contact Solid Waste Operation (SWO) at 5-7898.

REQUIRED: WASTE GENERATOR INFORMATION

(This form is for rollofs, dump trucks, and other onsite disposal of materials.)

Waste Generator: Glenn Richardson / Rob Bruner Phone Number: 5361 / 5682
Location / Origin: CAU 214 Area 25 IMP/SWF Debris Removal

Waste Category: (check one) ☐ Commercial ☒ Industrial
Waste Type: (check one) ☒ NTS ☐ Putrescible ☒ FFACO-onsite ☐ WAC Exception
☐ Non-Putrescible ☐ Asbestos Containing Material ☐ FFACO-offsite ☐ Historic DOE/NV
Pollution Prevention Category: (check one) ☒ Environmental management ☐ Defense Projects
Pollution Prevention Category: (check one) ☒ Clean-Up ☒ Routine
Method of Characterization: (check one) ☒ Sampling & Analysis ☒ Process Knowledge ☐ Contents

Prohibited Waste at all three NTS landfills: Radioactive waste; RCRA waste; Hazardous waste; Free liquids, PCBs above TSCA regulatory levels-, and Medical wastes (needles, sharps, bloody clothing).

Additional Prohibited Waste at the Area 9 U10c Landfill: Sewage Sludge; Animal carcasses-, Wet garbage (food waste); and Friable asbestos

REQUIRED: WASTE CONTENTS ALLOWABLE WASTES

Check all allowable wastes that are contained within this load:

NOTE: Waste disposed at the Area 6 Hydrocarbon Landfill must have come into contact with petroleum hydrocarbons or coolants such as: gasoline (no benzene, lead); jet fuel; diesel fuel; lubricants and hydraulics; kerosene; asphaltic petroleum hydrocarbon; and ethylene glycol.

Acceptable waste at any NTS landfill: ☐ Paper ☒ Rocks / unaltered geologic materials ☐ Empty containers
☐ Asphalt ☒ Metal ☒ Wood ☒ Soil ☐ Rubber (excluding tires) ☐ Demolition debris
☒ Plastic ☒ Wire ☐ Cable ☐ Cloth ☐ Insulation (non-Asbestosform) ☒ Cement & concrete
☐ Manufactured items: (swamp coolers, furniture, rugs, carpet, electronic components, PPE, etc.)

Additional waste accepted at the Area 23 Mercury Landfill: ☐ Office waste ☐ Food Waste ☐ Animal Carcasses
☐ Asbestos: ☐ Friable ☐ Non-Friable (contact SWO if regulated load) Quantity: _____

Additional waste accepted at the Area 9 U10c Landfill:

☐ Non-friable asbestos ☐ Drained automobiles and military vehicles ☐ Solid fractions from sand/oil/water separators
☐ Light ballasts (contact SWO) ☐ Drained fuel filters (gas & diesel) ☐ Deconned Underground and Above Ground
☐ Hydrocarbons (contact SWO) ☐ Tanks

Additional waste accepted at the Area 6 Hydrocarbon Landfill:

☐ Septic sludge ☐ Rags ☐ Drained fuel filters (gas & diesel) ☐ Crushed non-terne plated oil filters
☐ Plants ☐ Sludge from sand/oil/water separators ☐ PCBs below 50 parts per million

REQUIRED: WASTE GENERATOR SIGNATURE

Initials: _____ (If initialed, no radiological clearance is necessary.)

The above mentioned waste was generated outside of a Controlled Waste Management Area (CWMA) and to the best of my knowledge, does not contain radiological materials.

To the best of my knowledge, the waste described above contains only those materials. I have verified this through the waste characterization method identified as prohibited and allowable waste items.

Print Name: Robert Bruner
Signature: Robert Bruner Date: 6/15/06

Radiological Survey Release for Waste Disposal

RCT Initials LB

☐ This container/load meets the criteria for no added man-made radioactive material
☐ This container/load meets the criteria for Radcon Manual Table 4.2 release limits.
☒ This container/load is exempt from survey due to process knowledge and origin.

SIGNATURE: Ann Kelly DATE: 6/15/06

BN-0646 (10/05)

Note: Food waste, office trash and/or animal carcasses are considered not to contain added radioactivity, and therefore do not require a radiological clearance.

SWO USE ONLY

Load Weight (net from scale or estimate): 800 Signature of Certifier: [Signature]

BN-0918 (09/00)

SWO USE (Circle One Area) AREA**23****6****9****LANDFILL**

For waste characterization, approval, and/or assistance, contact Solid Waste Operation (SWO) at 5-7898.

REQUIRED: WASTE GENERATOR INFORMATION

(This form is for rollofs, dump trucks, and other onsite disposal of materials.)

Waste Generator: Glenn Richardson/Rob Baumer Phone Number: 536/5682Location / Origin: Area 25 YMP/SMF CAU 214 Soil + Debris RemovalWaste Category: (check one) ☐ Commercial ☒ IndustrialWaste Type: (check one) ☒ NTS ☐ Putrescible ☒ FFACO-onsite ☐ WAC Exception
☐ Non-Putrescible ☐ Asbestos Containing Material ☐ FFACO-offsite ☐ Historic DOE/NVPollution Prevention Category: (check one) ☒ Environmental management ☐ Defense ProjectsPollution Prevention Category: (check one) ☒ Clean-Up ☐ RoutineMethod of Characterization: (check one) ☒ Sampling & Analysis ☐ Process Knowledge ☐ Contents

Prohibited Waste at all three NTS landfills: Radioactive waste; RCRA waste; Hazardous waste; Free liquids, PCBs above TSCA regulatory levels-, and Medical wastes (needles, sharps, bloody clothing).

Additional Prohibited Waste at the Area 9 U10c Landfill: Sewage Sludge; Animal carcasses-, Wet garbage (food waste); and Friable asbestos

REQUIRED: WASTE CONTENTS ALLOWABLE WASTES

Check all allowable wastes that are contained within this load:

NOTE: Waste disposed at the Area 6 Hydrocarbon Landfill must have come into contact with petroleum hydrocarbons or coolants such as: gasoline (no benzene, lead); jet fuel; diesel fuel; lubricants and hydraulics; kerosene; asphaltic petroleum hydrocarbon; and ethylene glycol.

Acceptable waste at any NTS landfill: ☐ Paper ☒ Rocks / unaltered geologic materials ☐ Empty containers
☐ Asphalt ☒ Metal ☒ Wood ☒ Soil ☐ Rubber (excluding tires) ☐ Demolition debris
☒ Plastic ☒ Wire ☒ Cable ☐ Cloth ☐ Insulation (non-Asbestosform) ☐ Cement & concrete
☒ Manufactured items: (swamp coolers, furniture, rugs, carpet, electronic components, PPE, etc.)Additional waste accepted at the Area 23 Mercury Landfill: ☐ Office waste ☐ Food Waste ☐ Animal Carcasses☐ Asbestos: ☐ Friable ☐ Non-Friable (contact SWO if regulated load) Quantity: _____

Additional waste accepted at the Area 9 U10c Landfill:

☐ Non-friable asbestos ☐ Drained automobiles and military vehicles ☐ Solid fractions from sand/oil/water separators
☐ Light ballasts (contact SWO) ☐ Drained fuel filters (gas & diesel) ☐ Deconned Underground and Above Ground
☐ Hydrocarbons (contact SWO) ☐ Tanks

Additional waste accepted at the Area 6 Hydrocarbon Landfill:

☐ Septic sludge ☐ Rags ☐ Drained fuel filters (gas & diesel) ☐ Crushed non-terne plated oil filters
☐ Plants ☐ Sludge from sand/oil/water separators ☐ PCBs below 50 parts per million**REQUIRED: WASTE GENERATOR SIGNATURE**

Initials: _____ (If initialed, no radiological clearance is necessary.)

The above mentioned waste was generated outside of a Controlled W knowledge, does not contain radiological materials.

To the best of my knowledge, the waste described above contains on site. I have verified this through the waste characterization method id prohibited and allowable waste items.

Print Name: Robert BaumerSignature: Robert Baumer Date: 6/29/06**Radiological Survey Release for Waste Disposal RCT Initials**☐ This container/load meets the criteria for no added man-made radioactive material
☐ This container/load meets the criteria for Radcon Manual Table 4.2 release limits.
☒ This container/load is exempt from survey due to process knowledge and origin.SIGNATURE: R. Pahl DATE: 6-29-06

BN-0646 (10/05)

Note: Food waste, office trash and/or animal carcasses are considered not to contain added radioactivity, and therefore do not require a radiological clearance.

SWO USE ONLYLoad Weight (net from scale or estimate): 12706 Signature of Certifier: [Signature]

SWO USE (Circle One Area) AREA 23 6 9 LANDFILL

For waste characterization, approval, and/or assistance, contact Solid Waste Operation (SWO) at 5-7898.

REQUIRED: WASTE GENERATOR INFORMATION

(This form is for rollofs, dump trucks, and other onsite disposal of materials.)

Waste Generator: Glenn Richardson / Robert Baumer Phone Number: 5361 5682Location / Origin: Area 25 YAMP/SMF CAU 214 Soil & Debris Removal

Waste Category: (check one) ☐ Commercial ☒ Industrial

Waste Type: (check one) ☒ NTS ☐ Putrescible ☒ FFACO-onsite ☐ WAC Exception
☐ Non-Putrescible ☐ Asbestos Containing Material ☐ FFACO-offsite ☐ Historic DOE/NV

Pollution Prevention Category: (check one) ☒ Environmental management ☐ Defense Projects

Pollution Prevention Category: (check one) ☒ Clean-Up ☐ Routine

Method of Characterization: (check one) ☒ Sampling & Analysis ☐ Process Knowledge ☐ Contents

Prohibited Waste at all three NTS landfills: Radioactive waste; RCRA waste; Hazardous waste; Free liquids, PCBs above TSCA regulatory levels-, and Medical wastes (needles, sharps, bloody clothing).**Additional Prohibited Waste at the Area 9 U10c Landfill:** Sewage Sludge; Animal carcasses-, Wet garbage (food waste); and Friable asbestos**REQUIRED: WASTE CONTENTS ALLOWABLE WASTES**

Check all allowable wastes that are contained within this load:

NOTE: Waste disposed at the Area 6 Hydrocarbon Landfill must have come into contact with petroleum hydrocarbons or coolants such as: gasoline (no benzene, lead); jet fuel; diesel fuel; lubricants and hydraulics; kerosene; asphaltic petroleum hydrocarbon; and ethylene glycol.

Acceptable waste at any NTS landfill: ☐ Paper ☒ Rocks / unaltered geologic materials ☐ Empty containers

☐ Asphalt ☒ Metal ☒ Wood ☒ Soil ☐ Rubber (excluding tires) ☐ Demolition debris

☒ Plastic ☒ Wire ☐ Cable ☐ Cloth ☐ Insulation (non-Asbestosform) ☐ Cement & concrete

☒ Manufactured items: (swamp coolers, furniture, rugs, carpet, electronic components, PPE, etc.)

Additional waste accepted at the Area 23 Mercury Landfill: ☐ Office waste ☐ Food Waste ☐ Animal Carcasses

☐ Asbestos: ☐ Friable ☐ Non-Friable (contact SWO if regulated load) Quantity: _____

Additional waste accepted at the Area 9 U10c Landfill:

☐ Non-friable asbestos ☐ Drained automobiles and military vehicles ☐ Solid fractions from sand/oil/water separators

☐ Light ballasts (contact SWO) ☐ Drained fuel filters (gas & diesel) ☐ Deconned Underground and Above Ground

☐ Hydrocarbons (contact SWO) ☐ Tanks

Additional waste accepted at the Area 6 Hydrocarbon Landfill:

☐ Septic sludge ☐ Rags ☐ Drained fuel filters (gas & diesel) ☐ Crushed non-terne plated oil filters

☐ Plants ☐ Sludge from sand/oil/water separators ☐ PCBs below 50 parts per million

REQUIRED: WASTE GENERATOR SIGNATURE

Initials: _____ (If initialed, no radiological clearance is necessary.)

The above mentioned waste was generated outside of a Controlled Waste Man knowledge, does not contain radiological materials.

To the best of my knowledge, the waste described above contains only those n site. I have verified this through the waste characterization method identified at prohibited and allowable waste items.

Print Name: Robert BaumerSignature: Robert Baumer Date: 6/29/06**Radiological Survey Release for Waste Disposal RCT Initials**

_____ This container/load meets the criteria for no added man-made radioactive material

_____ This container/load meets the criteria for Radcon Manual Table 4.2 release limits.

RZP This container/load is exempt from survey due to process knowledge and origin.

SIGNATURE: R. Parker DATE: 6-29-06

BN-0646 (10/05)

Note: Food waste, office trash and/or animal carcasses are considered not to contain added radioactivity, and therefore do not require a radiological clearance.**SWO USE ONLY**Load Weight (net from scale or estimate): 2 3120 Signature of Certifier: Jay Alkale

BN-0918 (09/00)

US Ecology Nevada, Inc.
P.O Box 578
Beatty, Nevada 89003

Phone: (800) 239 3943
(775) 553 2203
Fax: (775) 553 2742

US Ecology Nevada, Inc.

an American Ecology company

June 07, 2006

Brett Bushnell
BECHTEL NEVADA FOR US DOE
P.O. BOX 98521 M/S CF025
LAS VEGAS, NV 89193-8521

RE: Generator : BECHTEL NEVADA FOR US DOE
US Ecology WS # : 070138619-1
Waste Stream Name: CHROMIUM CONTAMINATED SOIL
Expiration Date : 05/26/2007

Dear Brett Bushnell,

US Ecology recently received approval from the Nevada EPA for the disposal of the subject waste stream at our fully permitted RCRA, TSCA and CERCLA approved landfill facility at Beatty, Nevada. US Ecology appreciates the opportunity to manage this waste stream for you and looks forward to working with you for all your disposal needs.

The Uniform Hazardous Waste Manifest and Truck Inventory Sheet must accompany each shipment. If the shipment is lab waste, drum inventories must accompany the manifest. Also, the drum number is to be placed on top of the corresponding drum.

Please notify the Beatty disposal facility at least 48 hours prior to shipment and provide the facility with the following information:

- Date of Arrival
- U.S EPA Generator ID Number
- Waste Stream Number(s) and Total Quantity of each waste stream shipped
- Indicate if the waste is for Stabilization, Debris Treatment, or Direct Landfill
- Indicate if the waste is being shipped in bulk or in containers

The following is required when the load is received at US Ecology.

- A manifest
- A Truck inventory
- A Land Disposal Restriction Form (LDR), if applicable
- The driver is required to have all necessary p.p.e., including an appropriate respirator, in order to offload the waste.

Under conditions of our operating permit, US Ecology is required to inform you that we have all the appropriate permits in order to manage your waste stream.

Should you have any questions, Please contact your US Ecology Technical Sales Representative or Beatty customer service at (800) 239-3943. Please refer to the US Ecology Waste Stream Number above when making inquiries.

It is important that each shipment be scheduled at least 48 hours in advance. Unscheduled loads will be offloaded as time permits but may be subject to delay or rejection.

Sincerely,

Dana Sullivan

DANA SULLIVAN
SALESMAN

US Ecology Nevada, Inc.

an American Ecology company

May 24, 2006

Brett Bushnell
BECHTEL NEVADA FOR US DOE
P.O. BOX 98521 M/S CF025
LAS VEGAS, NV 89193-8521

RE: Generator : **BECHTEL NEVADA FOR US DOE**
US Ecology WS # : **070138513-1**
Waste Stream Name: **PESTICIDE CONTAMINATED SOIL**
Expiration Date : **05/19/2007**

Dear Brett Bushnell,

US Ecology recently received approval from the Nevada EPA for the disposal of the subject waste stream at our fully permitted RCRA, TSCA and CERCLA approved landfill facility at Beatty, Nevada. US Ecology appreciates the opportunity to manage this waste stream for you and looks forward to working with you for all your disposal needs.

The Uniform Hazardous Waste Manifest and Truck Inventory Sheet must accompany each shipment. If the shipment is lab waste, drum inventories must accompany the manifest. Also, the drum number is to be placed on top of the corresponding drum.

Please notify the Beatty disposal facility at least 48 hours prior to shipment and provide the facility with the following information:

- Date of Arrival
- U.S EPA Generator ID Number
- Waste Stream Number(s) and Total Quantity of each waste stream shipped
- Indicate if the waste is for Stabilization, Debris Treatment, or Direct Landfill
- Indicate if the waste is being shipped in bulk or in containers

The following is required when the load is received at US Ecology.

- A manifest
- A Truck inventory
- A Land Disposal Restriction Form (LDR), if applicable
- The driver is required to have all necessary p.p.e., including an appropriate respirator, in order to offload the waste.

Under conditions of our operating permit, US Ecology is required to inform you that we have all the appropriate permits in order to manage your waste stream.

Should you have any questions, Please contact your US Ecology Technical Sales Representative or Beatty customer service at (800) 239-3943. Please refer to the US Ecology Waste Stream Number above when making inquiries.

It is important that each shipment be scheduled at least 48 hours in advance. Unscheduled loads will be offloaded as time permits but may be subject to delay or rejection.

Sincerely,

Debbie Baker

DEBBIE BAKER
CUSTOMER SERVICE REP.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 3890090001	Manifest Document No. 06018	2. Page 1 of 1		Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193				A. State Manifest Document Number		
4. Generator's Phone (702) 630-0235 ATTN: C. Carlos Gonzales				B. State Generator's ID		
5. Transporter 1 Company Name MP Environmental Services		6. US EPA ID Number C8T000624247		C. State Transporter's ID		
7. Transporter 2 Company Name		8. US EPA ID Number		D. Transporter's Phone (800) 458-3036		
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003		10. US EPA ID Number NVT330010000		E. State Transporter's ID		
				F. Transporter's Phone		
				G. State Facility's ID		
				H. Facility's Phone (800) 239-3343		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. HM RQ NA3077, Hazardous waste, solid, n.o.s. (chromium), 9, III (D007)		1	CM	20	T	D007
b.						
c.						
d.						
J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above				
A. ERG 171, BN NT 506-0156-13-8619						
B.						
C.						
D. BIN 4943						
15. Special Handling Instructions and Additional Information						
Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name Roy J. BELKA		Signature Roy J. Belka		Month Day Year 10/6/2016		
17. Transporter 1 Acknowledgement of Receipt of Materials		Printed/Typed Name Jim Self		Signature Jim Self		
18. Transporter 2 Acknowledgement of Receipt of Materials		Printed/Typed Name		Signature		
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Misty Brooks		Signature Misty Brooks		Month Day Year 10/6/2016		



UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 3890090001	Manifest Document No. 06022	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193		6. US EPA ID Number CA 1000624247		A. State Manifest Document Number	
4. Generator's Phone (702) 690-0235 ATTN: C. Carlos Gonzales		8. US EPA ID Number		B. State Generator's ID	
5. Transporter 1 Company Name MP Environmental Services		10. US EPA ID Number NV T330010000		C. State Transporter's ID	
7. Transporter 2 Company Name				D. Transporter's Phone (800) 456-3036	
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003				E. State Transporter's ID	
				F. Transporter's Phone	
				G. State Facility's ID	
				H. Facility's Phone (800) 239-3943	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. RM NA3077, Hazardous waste, solid, n.o.s. (chromium), 9, III (D007)		1	CM	20	Y
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above A. FRG 171, BN NTS-06-0157, 13-6619 Box # 31/3 B. C. D.		K. Handling Codes for Wastes Listed Above 99/03			
15. Special Handling Instructions and Additional Information Shipment origin: BN for USD OE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-6311 (call collect). Use proper PPE when handling containers.					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name C. Carlos Gonzales		Signature <i>C. Carlos Gonzales</i>		Month Day Year 06/13/06	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Self		Signature <i>Jim Self</i>		Month Day Year 06/14/06	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Tommy... Signature <i>Tommy...</i> Month Day Year 06/14/06					



Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NY 389.0.09000.1	Manifest Document No. 06023	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193				A. State Manifest Document Number	
				B. State Generator's ID	
4. Generator's Phone (702) 630-0235 ATTN: C. Carlos Gonzales				C. State Transporter's ID	
5. Transporter 1 Company Name MP Environmental Services				D. Transporter's Phone (888) 458-3036	
7. Transporter 2 Company Name				E. State Transporter's ID	
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003				F. Transporter's Phone	
10. US EPA ID Number NVT330010000				G. State Facility's ID	
				H. Facility's Phone (800) 233-3343	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)			12. Containers No.	13. Total Quantity	14. Unit Wt/Vol
a. RM NA3077, Hazardous waste, solid, n.o.s. (chromium), 9, III (D007)			1	20	Y
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above A: ERG 171, BN NTS-06-0158, 13-8619 B in #4441 4366				K. Handling Codes for Wastes Listed Above 99/03	
15. Special Handling Instructions and Additional Information Shipments origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name C. Carlos Gonzales			Signature <i>[Signature]</i>		Month Day Year 10/6/16
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Seef			Signature <i>[Signature]</i>		Month Day Year 10/6/16
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name			Signature		Month Day Year
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Misty Brooks					
Signature <i>[Signature]</i>			Month Day Year 10/6/16		



UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 389.0.09000.1	Manifest Document No. 06024	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193		6. US EPA ID Number CAT000624247		A. State Manifest Document Number	
4. Generator's Phone (702) 630-0235		ATTN: C. Carlos Gonzales		B. State Generator's ID	
5. Transporter 1 Company Name MP Environmental Services		8. US EPA ID Number		C. State Transporter's ID	
7. Transporter 2 Company Name		10. US EPA ID Number NVT330010000		D. Transporter's Phone (800) 458-3036	
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89903				E. State Transporter's ID	
				F. Transporter's Phone	
				G. State Facility's ID	
				H. Facility's Phone (800) 239-3843	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. RM NA3077, Hazardous waste, solid, n.o.s. (chromium), 9, III (D007)		1	CM	20	Y
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above A. FRG 171, BN NTS 06-0159, 13-8619 BIN # 99463169 04/16/06 B. C. D.		K. Handling Codes for Wastes Listed Above 99/03			
15. Special Handling Instructions and Additional Information Shipment origin: BIN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name C. Carlos Gonzales		Signature <i>C. Carlos Gonzales</i>		Month Day Year 06/16/06	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name DOU STEWART		Signature <i>Dou Stewart</i>		Month Day Year 06/16/06	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Misty Brook					
Signature <i>Misty Brook</i>		Month Day Year 06/16/06			



Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NY 3890090001	Manifest Document No. 06025	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193		6. US EPA ID Number CAT000624247		A. State Manifest Document Number	
4. Generator's Phone (702) 630-6235 ATTN: C Carlos Gonzales		8. US EPA ID Number		B. State Generator's ID	
5. Transporter 1 Company Name MP Environmental Services		10. US EPA ID Number NYT330010000		C. State Transporter's ID	
7. Transporter 2 Company Name				D. Transporter's Phone (800) 458-3036	
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003				E. State Transporter's ID	
				F. Transporter's Phone	
				G. State Facility's ID	
				H. Facility's Phone (800) 233-3343	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	13. Total Quantity	14. Unit Wt/Vol	15. Waste No.
a. RM NA3077, Hazardous waste, solid, n.o.s. (chromium), 9, III (D007)		1	20	Y	D007
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above A. ERG 171, BN-NTS-06-0160, 13-8619 B/N# 4946		K. Handling Codes for Wastes Listed Above 99/03			
15. Special Handling Instructions and Additional Information Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name Carlos Gonzales		Signature <i>[Signature]</i>		Month Day Year 10/6/16	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Self		Signature <i>[Signature]</i>		Month Day Year 10/6/16	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Tom Dymon		Signature <i>[Signature]</i>		Month Day Year 10/6/16	

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NY 3890090001		Manifest Document No. 06026	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193					A. State Manifest Document Number		
4. Generator's Phone (702) 630-0235 ATTN: C. Carlos Gonzales					B. State Generator's ID		
5. Transporter 1 Company Name MP Environmental Services					C. State Transporter's ID		
6. US EPA ID Number CAT000624247					D. Transporter's Phone (800) 458-3036		
7. Transporter 2 Company Name					E. State Transporter's ID		
8. US EPA ID Number					F. Transporter's Phone ()		
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003					G. State Facility's ID		
10. US EPA ID Number NVT330010000					H. Facility's Phone (800) 239-3943		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)					12. Containers No.	13. Total Quantity	14. Unit Wt/Vol
a. HA NA3077, Hazardous waste, solid, n.o.s. (chromium), 9, III (D007)					1	CM	20
b.							
c.							
d.							
J. Additional Descriptions for Materials Listed Above A. ERG 171, BN NTS-06-0161-13-8619 B: C: D:					K. Handling Codes for Wastes Listed Above 99/03		
15. Special Handling Instructions and Additional Information Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.							
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.							
Printed/Typed Name C. Carlos Gonzales					Signature <i>C. Carlos Gonzales</i>		Month Day Year 10/1/96
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Don Stewart					Signature <i>Don Stewart</i>		Month Day Year 10/1/96
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name					Signature		Month Day Year
19. Discrepancy Indication Space							
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Tom Dymond							
Signature <i>Tom Dymond</i>					Month Day Year 10/1/96		

Style F15 LABELMASTER (800) 621-5808 www.labelmaster.com

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.



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USING SOYBEAN INK



ORIGINAL RETURN TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 3890090001	Manifest Document No. 06027	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193		6. US EPA ID Number CAT000624247		A. State Manifest Document Number	
4. Generator's Phone (702) 630-0235 ATTN: C. Carlos Gonzales		8. US EPA ID Number		B. State Generator's ID	
5. Transporter 1 Company Name MP Environmental Services		10. US EPA ID Number		C. State Transporter's ID	
7. Transporter 2 Company Name				D. Transporter's Phone (800) 458-3036	
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003				E. State Transporter's ID	
				F. Transporter's Phone	
				G. State Facility's ID	
				H. Facility's Phone (800) 233-3943	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. RQ NA3077, Hazardous waste, solid, n.o.s. (chromium), 9, III (D007)		1	20	T	D007
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above A. ERG 171, BN NTS-06 0162, 12-8619 B/N #494 B. C. D.		K. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name C. Carlos Gonzales		Signature <i>C. Carlos Gonzales</i>		Month Day Year 09/19/06	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Self		Signature <i>Jim Self</i>		Month Day Year 09/19/06	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Lamar Walk		Signature <i>Lamar Walk</i>		Month Day Year 06/09/06	

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 3890090001	Manifest Document No. 06028	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193		6. US EPA ID Number CAT000624247		A. State Manifest Document Number	
4. Generator's Phone (702) 630-0235		ATTN: C. Carlos Gonzales		B. State Generator's ID	
5. Transporter 1 Company Name MP Environmental Services		8. US EPA ID Number		C. State Transporter's ID	
7. Transporter 2 Company Name		10. US EPA ID Number		D. Transporter's Phone (800) 458-3096	
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003		11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		E. State Transporter's ID	
				F. Transporter's Phone	
				G. State Facility's ID	
				H. Facility's Phone (800) 233-3943	
				I. Waste No.	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers		13. Total Quantity	
		No. Type		Unit	
a. NA3077, Hazardous waste, solid, n.o.s. (chromium), 9, III (D007)		1 CM		20 Y	
b.					
c.					
d.					
14. Additional Descriptions for Materials Listed Above		15. Handling Codes for Wastes Listed Above			
A. ERG191, BN, NTS06-0163, 15-8619, BIN 4212		99/03			
B.					
C.					
D.					
15. Special Handling Instructions and Additional Information					
Shipment origin: BN for USDOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact# (702) 295-6311 (call collect). Use proper PPE when handling containers.					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name C. Carlos Gonzales		Signature C. Carlos Gonzales		Month Day Year 10/19/06	
17. Transporter 1 Acknowledgement of Receipt of Materials		Signature Don Stewart		Month Day Year 10/19/06	
Printed/Typed Name DON STEWART		Signature		Month Day Year	
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature		Month Day Year	
Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Misty Books		Signature Misty Books		Month Day Year 10/19/06	

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV3890090001	Manifest Document No. 06019	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193		6. US EPA ID Number CAT000624247		A. State Manifest Document Number		
4. Generator's Phone (702) 630-0235		8. US EPA ID Number		B. State Generator's ID		
5. Transporter 1 Company Name MAP Environmental Services		10. US EPA ID Number NVT330010000		C. State Transporter's ID		
7. Transporter 2 Company Name				D. Transporter's Phone (800) 458-3936		
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89303				E. State Transporter's ID		
				F. Transporter's Phone ()		
				G. State Facility's ID		
				H. Facility's Phone (800) 239-3343		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	1. Waste No.
a. NA3077, Hazardous waste, solid, n.o.s., 9, III (chlordane, heptachlor)		1	CM	20	Y	D020, D031
b.						
c.						
d.						
J. Additional Descriptions for Materials Listed Above A. ERG 171, BN NTS06-0153, 13-8513 B. C. D.		K. Handling Codes for Wastes Listed Above 07/03				
15. Special Handling Instructions and Additional Information Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers. Bin # 4212 Acc 6/19/06						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name Carlos Gonzales		Signature <i>Carlos Gonzales</i>		Month Day Year 10/21/06		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Tim Seif		Signature <i>Tim Seif</i>		Month Day Year 10/21/06		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year 		
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Tom Dymond						
Signature <i>Tom Dymond</i>		Month Day Year 10/21/06				



Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV3890090001	Manifest Document No. 06032	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193		6. US EPA ID Number CAT000624247		A. State Manifest Document Number		
4. Generator's Phone (702) 630-0235		ATTN: C. Carlos Gonzales		B. State Generator's ID		
5. Transporter 1 Company Name MP Environmental Services		8. US EPA ID Number		C. State Transporter's ID		
7. Transporter 2 Company Name		10. US EPA ID Number NVT330010000		D. Transporter's Phone (800) 458-3038		
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89905				E. State Transporter's ID		
				F. Transporter's Phone		
				G. State Facility's ID		
				H. Facility's Phone (800) 239-3943		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. NA3077, Hazardous waste, solid, n.o.s., 9, III (chlordane, heptachlor)		1	GM	20	Y	D020, P091
b.						
c.						
d.						
J. Additional Descriptions for Materials Listed Above		K. Handling Codes for Wastes Listed Above				
A. YRG 171, BN NTS-06-0189-13-E513		03/07				
B.						
C.						
D. Site #4941 Acc note 6/19/06						
15. Special Handling Instructions and Additional Information						
Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89623. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name C. Carlos Gonzales		Signature C. Carlos Gonzales		Month Day Year 10/6/10		
17. Transporter 1 Acknowledgement of Receipt of Materials		Signature Jim Seif		Month Day Year 10/6/10		
Printed/Typed Name Jim Seif		Signature		Month Day Year		
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature		Month Day Year		
Printed/Typed Name		Signature		Month Day Year		
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Tom Dymond		Signature Tom Dymond		Month Day Year 10/6/10		

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 3890090001	Manifest Document No. 06033	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193		6. US EPA ID Number CAT000624247		A. State Manifest Document Number		
4. Generator's Phone (702) 630-0235 ATTN: C. Carlos Gonzales		8. US EPA ID Number		B. State Generator's ID		
5. Transporter 1 Company Name MP Environmental Services		10. US EPA ID Number NVT330010000		C. State Transporter's ID		
7. Transporter 2 Company Name				D. Transporter's Phone (800) 458-3036		
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89903				E. State Transporter's ID		
				F. Transporter's Phone		
				G. State Facility's ID		
				H. Facility's Phone (800) 239-3543		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. NA3077, Hazardous waste, solid, n.d.s., 9, III (chlordane, heptachlor)	1	CM	20	Y	D020 D031	
b.						
c.						
d.						
J. Additional Descriptions for Materials Listed Above A. ERG 171, BN NTS 06-0190, 13-8513 B. C. D.		K. Handling Codes for Wastes Listed Above #4780				
15. Special Handling Instructions and Additional Information Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name Stefan Duke		Signature <i>[Signature]</i>			Month Day Year 10/6/22/06	
17. Transporter 1 Acknowledgement of Receipt of Materials		Signature <i>[Signature]</i>			Month Day Year 10/6/22/06	
Printed/Typed Name Jim Self		Signature <i>[Signature]</i>			Month Day Year 10/6/22/06	
18. Transporter 2 Acknowledgement of Receipt of Materials		Signature			Month Day Year	
Printed/Typed Name						
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Liaman Walter		Signature <i>[Signature]</i>			Month Day Year 10/6/22/06	

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UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV3890090001	Manifest Document No. 06034	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193		4. Generator's Phone (702) 530-0235 ATTN: C. Carlos Gonzales		A. State Manifest Document Number	
5. Transporter 1 Company Name MP Environmental Services		6. US EPA ID Number CAT000624247		B. State Generator's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID	
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003		10. US EPA ID Number NVT330010000		D. Transporter's Phone (800) 458-3636	
				E. State Transporter's ID	
				F. Transporter's Phone ()	
				G. State Facility's ID	
				H. Facility's Phone (800) 249-5943	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. NA3077, Hazardous waste, solid, n.o.s., 9, III (chlordane, heptachlor)		1	CM	20	Y
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above A. REG 171, BN NTS 06-0191, 12-0513 B. C. D.		K. Handling Codes for Wastes Listed Above BIN R4701			
15. Special Handling Instructions and Additional Information Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name C. Carlos Gonzales		Signature C. Carlos Gonzales		Month Day Year 10/22/06	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Self		Signature Jim Self		Month Day Year 10/22/06	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Tom Dymond		Signature Tom Dymond		Month Day Year 10/22/06	

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Form Approved. OMB No. 2050-0039.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 3890090001		Manifest Document No. 06035		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89183		4. Generator's Phone (702) 630-0235		6. US EPA ID Number CAT000624247		A. State Manifest Document Number		B. State Generator's ID	
5. Transporter 1 Company Name MP Environmental Services		7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID		D. Transporter's Phone (800) 458-3036	
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003		10. US EPA ID Number NVT330010000				E. State Transporter's ID		F. Transporter's Phone ()	
						G. State Facility's ID		H. Facility's Phone (800) 239-3343	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers		13. Total Quantity		14. Unit Wt/Vol	
				No. Type				Waste No.	
a. RM NA3077, Hazardous waste, solid, n.o.s., 9, III (chlordane, heptachlor)				1 CM		20		Y	
b.									
c.									
d.									
j. Additional Descriptions for Materials Listed Above A. FRG-171-BN NTS-05-0192-13-9513 BIN-5183				k. Handling Codes for Wastes Listed Above					
15. Special Handling Instructions and Additional Information Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name C. Carlos Gonzales				Signature <i>C. Carlos Gonzales</i>		Month Day Year 10/6/21 2016			
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Self				Signature <i>Jim Self</i>		Month Day Year 10/6/21 2016			
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name				Signature		Month Day Year			
19. Discrepancy Indication Space									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Misty Beaks				Signature <i>Misty Beaks</i>		Month Day Year 10/6/21 2016			

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EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.



ORIGINAL-RETURN TO GENERATOR

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UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV3890090001	Manifest Document No. 06036	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, r/s NTS 110 Las Vegas, NV 89193		6. US EPA ID Number CAT000624247		A. State Manifest Document Number		
4. Generator's Phone (702) 530-0235 ATTN: C. Carlos Gonzales		8. US EPA ID Number		B. State Generator's ID		
5. Transporter 1 Company Name MP Environmental Services		10. US EPA ID Number NVT330010000		C. State Transporter's ID		
7. Transporter 2 Company Name				D. Transporter's Phone (800) 458-3036		
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003				E. State Transporter's ID		
				F. Transporter's Phone ()		
				G. State Facility's ID		
				H. Facility's Phone (800) 219-3343		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	1. Waste No.
a. <input type="checkbox"/> HM <input checked="" type="checkbox"/> RQ NA3077, Hazardous waste, solid, n.o.s., 9, III (chlordane, heptachlor)		1	CM	20	Y	D020, D031
b.						
c.						
d.						
3. Additional Descriptions for Materials Listed Above A. ERG 171; BN NTS 06-0193; 13-8513 Bin #3/13 B. C. D.		K. Handling Codes for Wastes Listed Above				
15. Special Handling Instructions and Additional Information Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name C. Carlos Gonzales		Signature <i>C. Carlos Gonzales</i>			Month Day Year 10/6/21/06	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Self		Signature <i>Jim Self</i>			Month Day Year 10/6/21/06	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature			Month Day Year	
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.						
Printed/Typed Name Misty Brooks		Signature <i>Misty Brooks</i>			Month Day Year 10/6/21/06	



ORIGINAL-RETURN TO GENERATOR

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UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 3890090001		Manifest Document No. 06037	2. Page 1 of 1		Information in the shaded areas is not required by Federal law.		
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193					A. State Manifest Document Number				
4. Generator's Phone (702) 580-0235 ATTN: C. Carlos Gonzales					B. State Generator's ID				
5. Transporter 1 Company Name MP Environmental Services					C. State Transporter's ID				
6. US EPA ID Number CAT000624247					D. Transporter's Phone (800) 458-3036				
7. Transporter 2 Company Name					E. State Transporter's ID				
8. US EPA ID Number					F. Transporter's Phone ()				
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003					G. State Facility's ID				
10. US EPA ID Number NVT330010000					H. Facility's Phone (800) 239-3343				
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)					12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	15. Waste No.
a. RQ NA3077, Hazardous waste, solid, n.o.s., 9, III (chlordane, heptachlor)					1	CM	20	Y	D020, D031
b.									
c.									
d.									
16. Additional Descriptions for Materials Listed Above A. FRG 171; BN NTS 06-0194; 13-8515					K. Handling Codes for Wastes Listed Above 07/03				
15. Special Handling Instructions and Additional Information Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers. Bin 3410 Acc Date 6/19/06									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name C Carlos Gonzales					Signature <i>C Carlos Gonzales</i>		Month Day Year 06/26/06		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Self					Signature <i>Jim Self</i>		Month Day Year 06/26/06		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name					Signature		Month Day Year		
19. Discrepancy Indication Space									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Laura W. C.					Signature <i>Laura W. C.</i>		Month Day Year 06/26/06		



ORIGINAL-RETURN TO GENERATOR

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UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 3890090001	Manifest Document No. 06039	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193		4. Generator's Phone (702) 630-0235 ATTN: C. Carlos Gonzales		A. State Manifest Document Number	
5. Transporter 1 Company Name MP Environmental Services		6. US EPA ID Number CAT000624247		B. State Generator's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID	
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003		10. US EPA ID Number NVT330010000		D. Transporter's Phone (800) 458-3038	
				E. State Transporter's ID	
				F. Transporter's Phone ()	
				G. State Facility's ID	
				H. Facility's Phone (800) 239-3349	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. <input type="checkbox"/> HM <input type="checkbox"/> RQ NA3077, Hazardous waste, solid, n.o.s., 9, III (chloridene, heptachlor)		1	CM	20	Y
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above A. TRG 171 BN NTS 06-0196, 13-8513 B.W. #4946 B. C. D.		K. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers. Acc date 6/21/06					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name C. Carlos Gonzales		Signature C. Carlos Gonzales		Month Day Year 10/6/21/06	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Self		Signature Jim Self		Month Day Year 10/6/21/06	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Misty Brooks					
Signature Misty Brooks		Month Day Year 10/6/21/06			



Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 3890090001	Manifest Document No. 06040	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193		6. US EPA ID Number CAT000624247		A. State Manifest Document Number	
4. Generator's Phone (702) 630-0235		8. US EPA ID Number		B. State Generator's ID	
5. Transporter 1 Company Name MP Environmental Services		10. US EPA ID Number NV T330010000		C. State Transporter's ID	
7. Transporter 2 Company Name				D. Transporter's Phone (800) 458-3036	
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003				E. State Transporter's ID	
				F. Transporter's Phone	
				G. State Facility's ID	
				H. Facility's Phone (800) 239-5943	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. RM NA3077, Hazardous waste, solid, n.o.s., 9, III (chlordane, heptachlor)		1	GM	20	Y
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above A. ERG 171, BN NTS 06-0197, 13-8513, #3169		K. Handling Codes for Wastes Listed Above			
15. Special Handling Instructions and Additional Information Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact# (702) 295-0311 (call collect). Use proper PPE when handling containers.					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name C. Carlos Gonzales		Signature C. Carlos Gonzales		Month Day Year 10/6/2006	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Self		Signature Jim Self		Month Day Year 10/6/2006	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.					
Printed/Typed Name Tom Dymond		Signature Tom Dymond		Month Day Year 10/6/2006	



UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 3890090001	Manifest Document No. 06041	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89103		4. Generator's Phone (702) 630-0235 ATTN: C. Carlos Gonzales		A. State Manifest Document Number	
5. Transporter 1 Company Name MP Environmental Services		6. US EPA ID Number CAT000624247		B. State Generator's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Transporter's ID	
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89303		10. US EPA ID Number NVT330010000		D. Transporter's Phone (800) 458-3036	
				E. State Transporter's ID	
				F. Transporter's Phone	
				G. State Facility's ID	
				H. Facility's Phone (800) 239-3943	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	13. Total Quantity	14. Unit Wt/Vol	Waste No.
a. RM RQ NA3077, Hazardous waste, solid, n.o.s., 9, III (chlordane, heptachlor)		1	CM	20	Y
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above A. ERG 171, BN-NTS-06-0195, 13-4513. B. C. D.		K. Handling Codes for Wastes Listed Above 07/03			
15. Special Handling Instructions and Additional Information Shipment origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name C. Carlos Gonzales		Signature C. Carlos Gonzales		Month Day Year 06/28/06	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Hoff		Signature Jim Hoff		Month Day Year 06/28/06	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Tom Dymond					
Signature Tom Dymond		Month Day Year 06/28/06			



UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 3890090001	Manifest Document No. 06042	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.	
3. Generator's Name and Mailing Address Bechtel Nevada for US DOE P.O. BOX 88521, m/s NTS 110 Las Vegas, NV 89183		A. State Manifest Document Number		B. State Generator's ID		
4. Generator's Phone (702) 630-0235 ATTN: C. Carlos Gonzales		C. State Transporter's ID		D. Transporter's Phone (800) 458-3038		
5. Transporter 1 Company Name MP Environmental Services		6. US EPA ID Number CAT000624247		E. State Transporter's ID		
7. Transporter 2 Company Name		8. US EPA ID Number		F. Transporter's Phone		
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003		10. US EPA ID Number NVT330010000		G. State Facility's ID		
				H. Facility's Phone (800) 239-3343		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	13. Total Quantity	14. Unit Wt/Vol	15. Waste No.	
a. RQ NA3077, Hazardous waste, solid, n.o.s., 9, III (chlordane, heptachlor)		1	CM	20	Y	D020, D031
b.						
c.						
d.						
13. Additional Descriptions for Materials Listed Above A: ERG 171, BN NTS 06-0199-13-8513 B: C: D:		K. Handling Codes for Wastes Listed Above 07/03				
15. Special Handling Instructions and Additional Information Shipments origin: BN for US DOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact# (702) 295-0311 (call collect). Use proper PPE when handling containers.						
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.						
Printed/Typed Name C. Carlos Gonzales		Signature C. Carlos Gonzales		Month Day Year 10/6/2006		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Self		Signature Jim Self		Month Day Year 10/6/2006		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year		
19. Discrepancy Indication Space						
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Tom D. [Signature]						
Signature Tom D. [Signature]		Signature [Signature]		Month Day Year 10/6/2006		



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Form Approved. OMB No. 2050-0039.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV3890090001		Manifest Document No. 06045	2. Page 1 of 1		Information in the shaded areas is not required by Federal law.		
3. Generator's Name and Mailing Address NSTec for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193 ATTN: C. Carlos Gonzales					A. State Manifest Document Number				
					B. State Generator's ID				
4. Generator's Phone (702) 630-0235					C. State Transporter's ID				
5. Transporter 1 Company Name MP Environmental Services					D. Transporter's Phone (800) 458-3036				
7. Transporter 2 Company Name					E. State Transporter's ID				
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003					F. Transporter's Phone () -				
10. US EPA ID Number NVT330010000					G. State Facility's ID				
					H. Facility's Phone (800) 293-3843				
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)					12. Containers		13. Total Quantity	14. Unit Wt/Vol	Waste No.
					No.	Type			
a. HAZ NA3077, Hazardous waste, solid, n.o.s., 9, III (chloroform, heptachlor)					1	CM	20	Y	D020, D031
b.									
c.									
d.									
J. Additional Descriptions for Materials Listed Above A: ERG 171; HN-NTS-06-0202; 13-8513. BIN #4366					K. Handling Codes for Wastes Listed Above 07/0				
15. Special Handling Instructions and Additional Information Shipment origin: NSTec for USDOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.									
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.									
Printed/Typed Name C. Carlos Gonzales					Signature <i>C. Carlos Gonzales</i>		Month Day Year 19 7 95 196		
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Self					Signature <i>Jim Self</i>		Month Day Year 07 07 96		
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name					Signature		Month Day Year		
19. Discrepancy Indication Space									
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Tom Dynam					Signature <i>Tom Dynam</i>		Month Day Year 10 7 05 196		

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EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.



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ORIGINAL-RETURN TO GENERATOR

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV 3890090001	Manifest Document No. 06046	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address NSTec for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193		6. US EPA ID Number CAT000624247		A. State Manifest Document Number	
4. Generator's Phone (702) 530-0235 ATTN: C. Carlos Gonzales		8. US EPA ID Number		B. State Generator's ID	
5. Transporter 1 Company Name MP Environmental Services		10. US EPA ID Number NVT330010000		C. State Transporter's ID	
7. Transporter 2 Company Name				D. Transporter's Phone (800) 458-3036	
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003				E. State Transporter's ID	
				F. Transporter's Phone ()	
				G. State Facility's ID	
				H. Facility's Phone (800) 259-3843	
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)		12. Containers No.	13. Total Quantity	14. Unit Wt/Vol	15. Waste No.
a. NA3077, Hazardous waste, solid, n.o.s., 9, III (chlordane, heptachlor)		I	20	Y	D020, D031
b.					
c.					
d.					
J. Additional Descriptions for Materials Listed Above A. ERG 171, BN-NTS 06-0203, 13-8513 BIN #4341		K. Handling Codes for Wastes Listed Above 07/03			
15. Special Handling Instructions and Additional Information Shipment origin: NSTec for USDOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name C. Carlos Gonzales		Signature <i>C. Carlos Gonzales</i>		Month Day Year 19705196	
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Self		Signature <i>Jim Self</i>		Month Day Year 10/10/06	
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month Day Year	
19. Discrepancy Indication Space					
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Lamar Walsh					
Signature <i>Lamar Walsh</i>		Month Day Year 10/10/06			



Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039.

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NV3890090001		Manifest Document No. 06020		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.							
3. Generator's Name and Mailing Address NSTec for US DOE P.O. BOX 98521, m/s NTS 110 Las Vegas, NV 89193						A. State Manifest Document Number									
4. Generator's Phone (702) 630-0235 ATTN: C. Carlos Gonzales						B. State Generator's ID									
5. Transporter 1 Company Name MP Environmental Services						C. State Transporter's ID									
6. US EPA ID Number CAT000624247						D. Transporter's Phone (800) 458-3036									
7. Transporter 2 Company Name						E. State Transporter's ID									
8. US EPA ID Number						F. Transporter's Phone ()									
9. Designated Facility Name and Site Address US Ecology Hwy 95, 12 miles South of Beatty Beatty, NV 89003						G. State Facility's ID									
10. US EPA ID Number NVT330010000						H. Facility's Phone (800) 733-3343									
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.			
						No. Type									
a. NA3077, Hazardous waste, solid, n.o.s., 9, III (chlordane, heptachlor)						1 CM		20		Y		D020, D031			
b.															
c.															
d.															
J. Additional Descriptions for Materials Listed Above A. ERG 1.3, BN NTS-06-0154, 13-3513 BIN 4941						K. Handling Codes for Wastes Listed Above									
15. Special Handling Instructions and Additional Information Shipment origin: NSTec for USDOE, Nevada Test Site (NTS), Hwy 95, Mercury, NV 89023. 24-hour emergency contact # (702) 295-0311 (call collect). Use proper PPE when handling containers.															
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.															
Printed/Typed Name C. Carlos Gonzales						Signature <i>C. Carlos Gonzales</i>		Month Day Year 6/7/06		Year 06					
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Jim Seif						Signature <i>Jim Seif</i>		Month Day Year 6/10/06		Year 06					
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name						Signature		Month Day Year		Year					
19. Discrepancy Indication Space															
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name Tom Pym										Signature <i>Tom Pym</i>		Month Day Year 6/7/06		Year 06	



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APPENDIX D

FIELD PHOTOGRAPHS

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PHOTOGRAPHIC LOG

IMAGE NUMBER	DATE	CORRECTIVE ACTION SITE	DESCRIPTION
1	06-28-2006	CAS 25-99-12	Wooden storage structure before closure
2	07-19-2006	CAS 25-99-12	Wooden storage structure during removal
3	07-20-2006	CAS 25-99-12	Storage structure location after closure

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Photograph 1: CAS 25-99-12 Wooden storage structure before closure. (06/28/2006)



Photograph 2: CAS 25-99-12 Wooden storage structure during removal. (07/19/2006)



Photograph 3: CAS 25-99-12 Structure location after closure. (07/20/2006)

APPENDIX E

USE RESTRICTION INFORMATION

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CAU Use Restriction Information

CAU Number/Description: CAU 214, Bunkers and Storage Areas

Applicable CAS Numbers/Descriptions: CAS 25-23-01, Contaminated Materials, and CAS 25-23-19, Radioactive Materials Storage

Contact (organization/project): NNSA/NSO Industrial Sites Federal Sub-Project Director

Surveyed Area (UTM, Zone 11, NAD 27, meters):

Point	Location	Northing	Easting
1	CAS252301 - NE corner	4,070,677.482	563,448.130
2	CAS 252301 - SE corner	4,070,551.241	563,448.643
3	CAS 252301 - SW corner	4,070,550.567	563,232.171
4	CAS 252301 - NNW corner	4,070,676.743	563,289.485
5	CAS 252301 - NW vertex	4,070,641.817	563,289.603
6	CAS 252301- WNW corner	4,070,641.584	563,231.771
7	CAS 252319 - SW corner	4,070,641.584	563,231.771
8	CAS 252319 - SE corner	4,070,641.817	563,289.603
9	CAS 252319 - NW corner	4,070,676.610	563,231.617
10	CAS252319 - NE Corner	4,070,676.743	563,289.485

Survey Date: August 14, 2006 **Survey Method (GPS, etc):** GPS

Site Monitoring Requirements: Periodic visual inspection of use restriction postings and fencing.

Required Frequency (quarterly, annually?): Annual post closure monitoring for first five years, followed by every five years, for a total of thirty years.

If Monitoring Has Started, Indicate last Completion Date: N/A

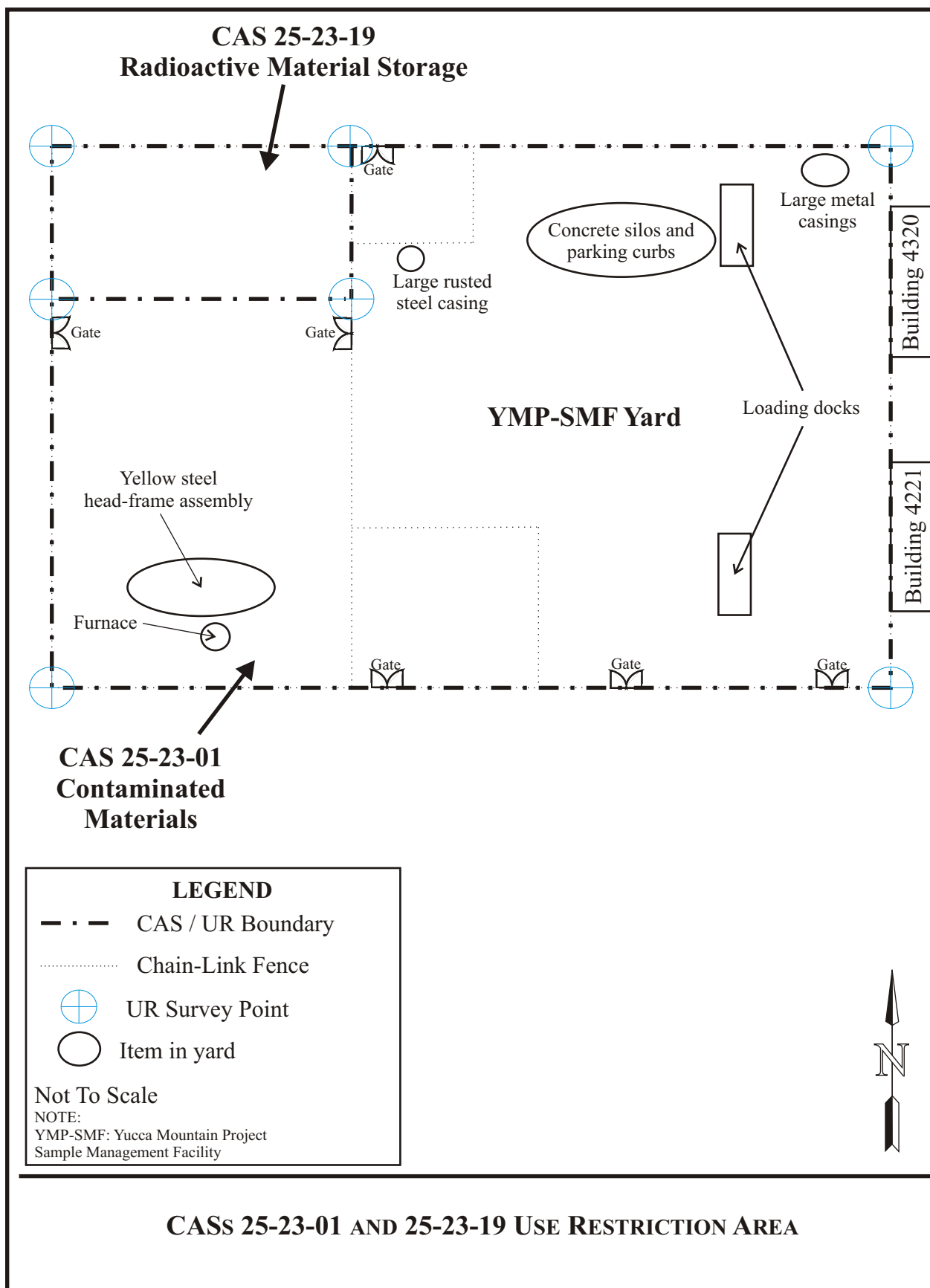
Use Restrictions

The future use of any land related to this Corrective Action Unit (CAU), as described by the above surveyed location, is restricted from any DOE or Air Force activity that may alter or modify the containment control as approved by the state and identified in the CAU Closure Report or other CAU documentation unless appropriate concurrence is obtained in advance.

Comments: TPH contaminants are present in subsurface soils in the areas identified by the above-surveyed locations. Refer to the Closure Report for more details: *Closure Report for Corrective Action Unit 214: Bunkers and Storage Areas, Nevada Test Site, Nevada (DOE/NV--1160)*. This document is available at the Office of Scientific and Technical Information, the NNSA Technical Library, the Southern Nevada Public Reading Facility, and the Northern Nevada FFAO Public Reading Facility.

Submitted By: Kevin Cabbie **Date:** 9-6-06

cc with copy of survey map (paper and digital (dgn) formats):
CAU Files (2 copies)

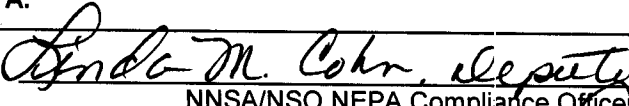


APPENDIX F

NATIONAL ENVIRONMENTAL POLICY ACT ENVIRONMENTAL EVALUATION CHECKLIST

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**U.S. DEPARTMENT OF ENERGY
NATIONAL NUCLEAR SECURITY ADMINISTRATION NEVADA SITE OFFICE
NEPA ENVIRONMENTAL EVALUATION CHECKLIST**

FOLLOW ATTACHED PROCEDURES FOR COMPLETING CHECKLIST				Date 12/20/2005			
A. Project/Activity Title (Attach a brief description of proposed project) CAU 214: CLOSURE/CLEANUP ACTIVITIES				Anticipated Start Date 5/3/2006			
Project Location NTS - Areas 5 and 25			Proposed By (if other than NNSA/NSO)				
NNSA/NSO Line Management Organization			NNSA/NSO Project/Program Manager Janet Appenzeller-Wing				
ENVIRONMENTAL CONSIDERATIONS: If any phase of the project/activity involves any of the following considerations, check yes and explain in project description. See NV-16A for consideration guidelines and examples.							
CONSIDERATION	YES	NO	UNK	CONSIDERATION	YES	NO	UNK
WASTE				AIR EMISSIONS			
1 Non-Rad Solid Waste	<input checked="" type="checkbox"/>			1 Biological Material/Chemical Release		<input checked="" type="checkbox"/>	
2 Hazardous Waste	<input checked="" type="checkbox"/>			2 Dust/Particulate Matter	<input checked="" type="checkbox"/>		
3 Low-level Rad Waste		<input checked="" type="checkbox"/>		3 Explosives		<input checked="" type="checkbox"/>	
4 Mixed Waste			<input checked="" type="checkbox"/>	4 Diesel Generators		<input checked="" type="checkbox"/>	
5 TRU/Mixed TRU Waste		<input checked="" type="checkbox"/>		5 Open Burning		<input checked="" type="checkbox"/>	
6 Wastewater (domestic/industrial)	<input checked="" type="checkbox"/>						
				SITE LOCATION/OTHER			
HAZARDOUS MATERIALS				1 Environmental Restoration Site (CAU)			
1 Petroleum/Fuel (storage/use)	<input checked="" type="checkbox"/>			2 Excavation/Land Surface Disturbance	<input checked="" type="checkbox"/>		
2 Underground Storage Tanks		<input checked="" type="checkbox"/>		3 Off road travel		<input checked="" type="checkbox"/>	
3 Aboveground Storage Tanks		<input checked="" type="checkbox"/>		4 Biological/Tortoise Resource Area	<input checked="" type="checkbox"/>		
4 PCBs/Asbestos		<input checked="" type="checkbox"/>		5 Cultural/Historic Resource Area		<input checked="" type="checkbox"/>	
5 Pesticides/Herbicides	<input checked="" type="checkbox"/>			6 Change in Existing Drainage Pattern		<input checked="" type="checkbox"/>	
6 Radioactive Materials	<input checked="" type="checkbox"/>			7 Impact to Environmental Monitoring System		<input checked="" type="checkbox"/>	
7 Biological Materials/Simulants		<input checked="" type="checkbox"/>		8 Unexploded Ordnance Area			<input checked="" type="checkbox"/>
8 Beryllium		<input checked="" type="checkbox"/>		9 Noise	<input checked="" type="checkbox"/>		
9 Chemical storage/use		<input checked="" type="checkbox"/>		10 Radiation controlled area	<input checked="" type="checkbox"/>		
10 Use of explosives/firearms		<input checked="" type="checkbox"/>		11 Drinking water system involvement		<input checked="" type="checkbox"/>	
DO NOT TYPE OR WRITE BELOW THIS LINE. FOR ESHD USE ONLY.							
B. Is the project/activity included in the final NTS EIS and the ROD or other NEPA document? Yes <input checked="" type="checkbox"/> (complete Sections C, D, and E) No <input type="checkbox"/> (complete Sections D, E, and F)							
C. This project/activity is included in the NTS EIS/ROD (or other NEPA document) under the following section and page no.: NTS/EIS, Volume 1, Appendix A, A.3.1.3 – Environmental Restoration Program – Industrial Sites Project							
D. Does the proposed project/activity require any local, state, or federal permits or notifications? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>							
E. If, based on the project description and the preliminary environmental considerations noted above, the proposed action fits within a class of action listed in Subpart D of 10 CFR 1021, write in the space below, the paragraph number and short title from the appropriate table of contents of Subpart D, Appendix B, C, or D, for a CX, EA, or EIS. If the proposed action does not fit within any class of action, write "Not Listed" below.							
F. NEPA COMPLIANCE OFFICER DETERMINATION OR RECOMMENDATION: I have determined that the proposed activity as described in item A above, has been adequately addressed in the document cited in item C for the purpose of NEPA. No further analysis or documentation is required pursuant to NEPA.							
 NNSA/NSO NEPA Compliance Officer				01/19/06 Date			

CAU 214: CLOSURE/CLEANUP ACTIVITIES

Project Description

Corrective Action Unit (CAU) 214 consists of nine Corrective Action Sites (CASs). Closure activities will be conducted at only four of the CASs. Activities will include removing fly ash from a wooden storage structure, demolishing the wooden storage structure, removing construction debris, excavating impacted soil, and posting use restriction warning signs. Each CAS is briefly described below.

CAS 05-99-01, Fallout Shelters

This site is located in the Frenchman Flat Historic District in Area 5. The site includes two collapsed fallout shelters and their adjacent instrument pits and dirt mounds.

A utility survey and blind penetration/excavation permit will be completed prior to remediation activities. Approximately 80 cubic yards of pesticide (and possibly Eu-152) contaminated soil located in the soil mound on the southern side of the southernmost fallout shelter will be excavated. A water truck will be used to control dust during these activities. The soil will be placed in B25 boxes and managed as mixed waste. Verification samples will be collected from the excavation and analyzed for total pesticides. The excavation will be backfilled to the approximate natural contours when the verification sample results indicate that all pesticide-contaminated soil has been removed. The removed soil will be sampled for waste characterization and disposed according to the results. This CAS is located in a controlled area.

CAS 25-99-12 - Fly Ash Storage

This site is located approximately 500 ft from the BREN Tower in Area 25. The site includes a wooden storage structure approximately 10 ft long by 12 ft wide by 8 ft tall. The structure contains approximately 15 cubic yards of fly ash.

The fly ash will be removed and disposed as sanitary waste in the U10c landfill. The wooden storage structure will be demolished and disposed as sanitary waste in the U10c landfill. This CAS is not in a posted area.

CAS 25-23-01, Contaminated Materials, and CAS 25-23-19, Radioactive Material Storage

These sites are located adjacent to one another in a fenced area west of the Yucca Mountain Project Sample Management Facility in Area 25. Wood, metal, and concrete debris are scattered throughout the two CASs. Items that can be removed manually will be removed and disposed as sanitary waste in the U10c landfill. Items that will remain at the site include a large rusted steel casing, concrete silos, concrete parking curbs, large metal casings, two loading docks, yellow steel frame assembly items, and a furnace. All other debris will be removed.

A utility survey and blind penetration/excavation permit will be completed prior to remediation activities. Three areas of contaminated soil will be excavated:

- At the first area (currently marked with a stake as D07), approximately 90 cubic yards of pesticide-contaminated soil will be excavated.

- At the second area (currently marked with a stake as D10), approximately 160 cubic yards of pesticide-contaminated soil will be excavated.
- At the third area (a green-colored stain at the northwest corner of the fenced area), approximately 100 cubic yards of chromium-contaminated soil will be excavated.

A water truck will be used to control dust during excavation activities. The soil will be placed in roll-offs (provided by a sub contractor) and managed as hazardous waste. Verification samples will be collected from each excavation and analyzed for total pesticides and total metals. The excavations will be backfilled to the approximate natural contours when the verification sample results indicate that all contaminated soil has been removed. The removed soil will be sampled for waste characterization and disposed according to the results.

In addition, TPH is present at low concentrations in surface soil throughout both CASs. Use restriction warning signs will be posted on the existing chain link fence to communicate the TPH contamination. This CAS is not in a posted area.

Environmental Considerations

Waste

1. **Non-Rad Solid Waste:** Non-Rad Solid Waste (e.g., non-impacted personal protective equipment and general trash) and construction debris (e.g., wood, concrete, and metal) removed from sites will be screened for free release and disposed in an onsite landfill.
2. **Hazardous Waste:** Hazardous Waste will be generated at CASs 05-99-01, 25-23-01, and 25-23-19 in the form of pesticide-contaminated soil and chromium-contaminated soil. The hazardous waste will be managed and disposed according to all applicable BN procedures and state and federal regulations. Upon generation, the waste shall be containerized and stored in a satellite accumulation area or a 90-Day Hazardous Waste Accumulation Area depending on the amount of waste generated. After an approved waste profile is generated, the waste will be shipped to an appropriate offsite facility.
4. **Mixed Waste:** Mixed Waste may be generated at CAS 05-99-01. Soil will be excavated for pesticide contamination, and it may also be radioactively contaminated. If waste characterization results indicate that the soil contains radionuclides, it will be disposed as mixed waste according to all applicable BN procedures and state and federal regulations.
6. **Wastewater:** Heavy equipment will be decontaminated, as necessary, prior to release from the site. A decontamination pad will be constructed by lining a bermed area large enough to hold the equipment. The equipment will be cleaned on the pad using a pressure washer/steam cleaner or rinsed. Rinsate will be mixed with clean fill and solidified or allowed to evaporate. All rinsate, after solidification, will be characterized by sampling, and properly disposed. The liner will be disposed in the appropriate disposal facility.

Hazardous Materials

1. **Petroleum/Fuel (storage/use):** Heavy equipment onsite will use petroleum fuel. No fuel will be stored onsite outside of the equipment. Absorbent pads will be used if equipment appears to be leaking petroleum.

5. **Pesticides/Herbicides:** Pesticide-contaminated soil will be removed from CASs 05-99-01, 25-23-01, and 25-23-19. The soil will be managed as hazardous or mixed waste according to all applicable BN procedures and state and federal regulations. Upon generation, the waste shall be containerized and stored in a satellite accumulation area or a 90-Day Hazardous Waste Accumulation Area depending on the amount of waste generated. After an approved waste profile is generated, the waste will be shipped to an appropriate offsite facility.
6. **Radioactive Materials:** Soil samples collected at CAS 05-99-01 indicated low levels of Eu-152 are present. The soil will be managed as mixed waste until a waste profile is generated.

Air Emissions

2. **Dust/Particulate Matter:** Dust/Particulate Matter will be controlled during soil excavation by the use of water sprays.

Site Location/Other

1. **Environmental Restoration Site:** These sites are included in the Federal Facility Agreement and Consent Order between the Department of Energy and the state of Nevada as part of CAU 214.
2. **Excavation/Land Surface Disturbance:** Excavation will occur at CASs 05-99-01, 25-23-01, and 25-23-19 to remove impacted soil. Soil will be removed by using either a backhoe or front-end loader, and all excavations will be backfilled with clean fill from an approved borrow source and contoured to the surrounding grade.
4. **Biological/Tortoise Resource Area:** The sites are located in a Biological/Tortoise Resource Area. A biological pre-activity survey will be conducted prior to starting field activities at these sites.
8. **Unexploded Ordnance Area:** UXO may be encountered at the sites in CAU 214. If UXO is encountered, the appropriate notifications will be made, and all BN procedures will be followed.
9. **Noise:** Elevated noise levels may result from the operation of backhoe and/or loader equipment. Personnel not directly involved with operation of this equipment will be kept back at least 15 feet while equipment is in use. The equipment operator will follow the instructions as directed in the Site Specific Health and Safety Plan.
10. **Radiation controlled area:** CAS 05-99-01 is located in a controlled area, and work will be performed under the supervision of a radiological control technician as needed. An RWP will be obtained if required by Health Physics.

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